

THE MILLING WORLD

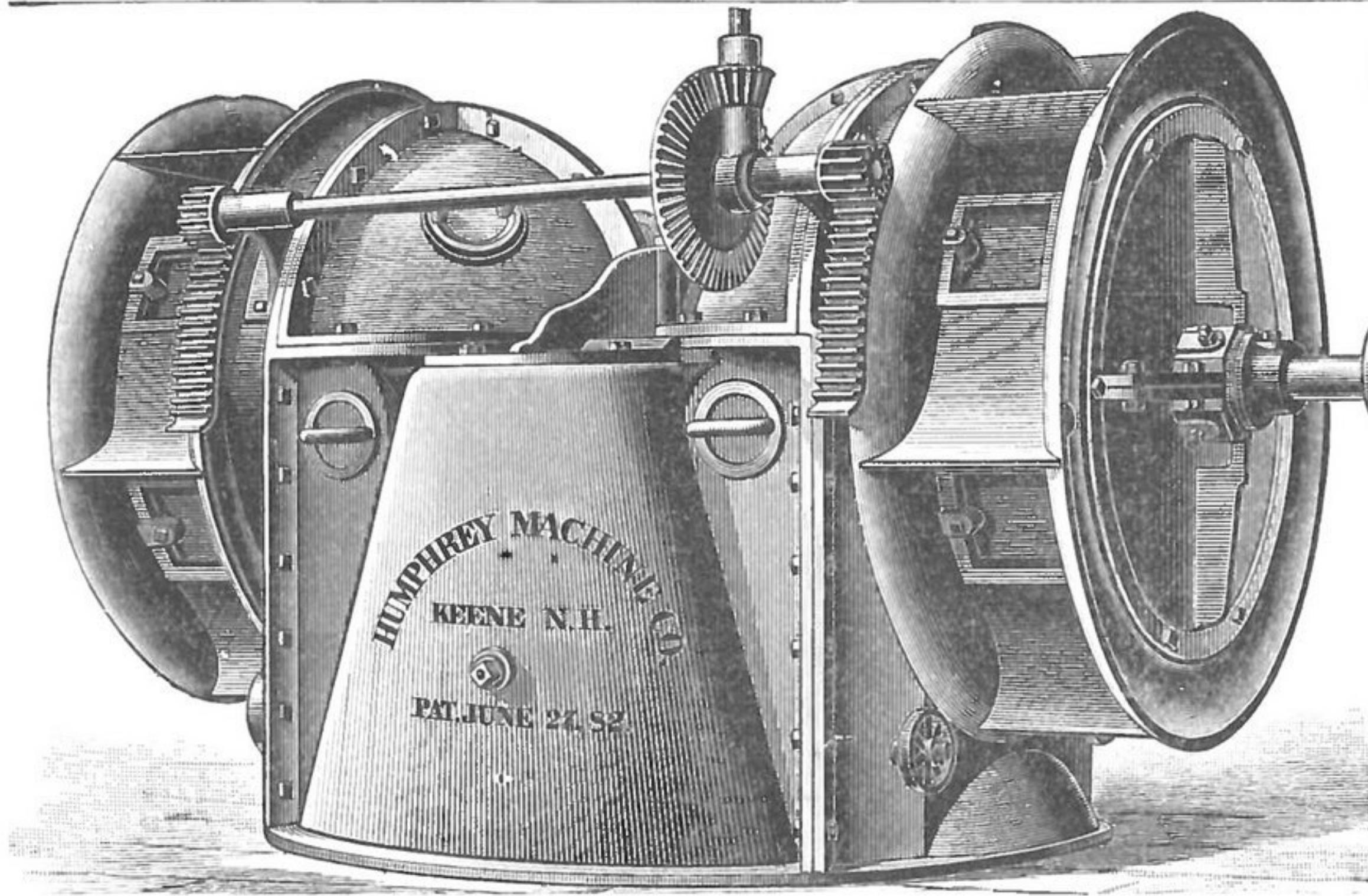
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXII. No. 23.

BUFFALO, N. Y., AUGUST 4, 1890.

\$1.50 PER YEAR.

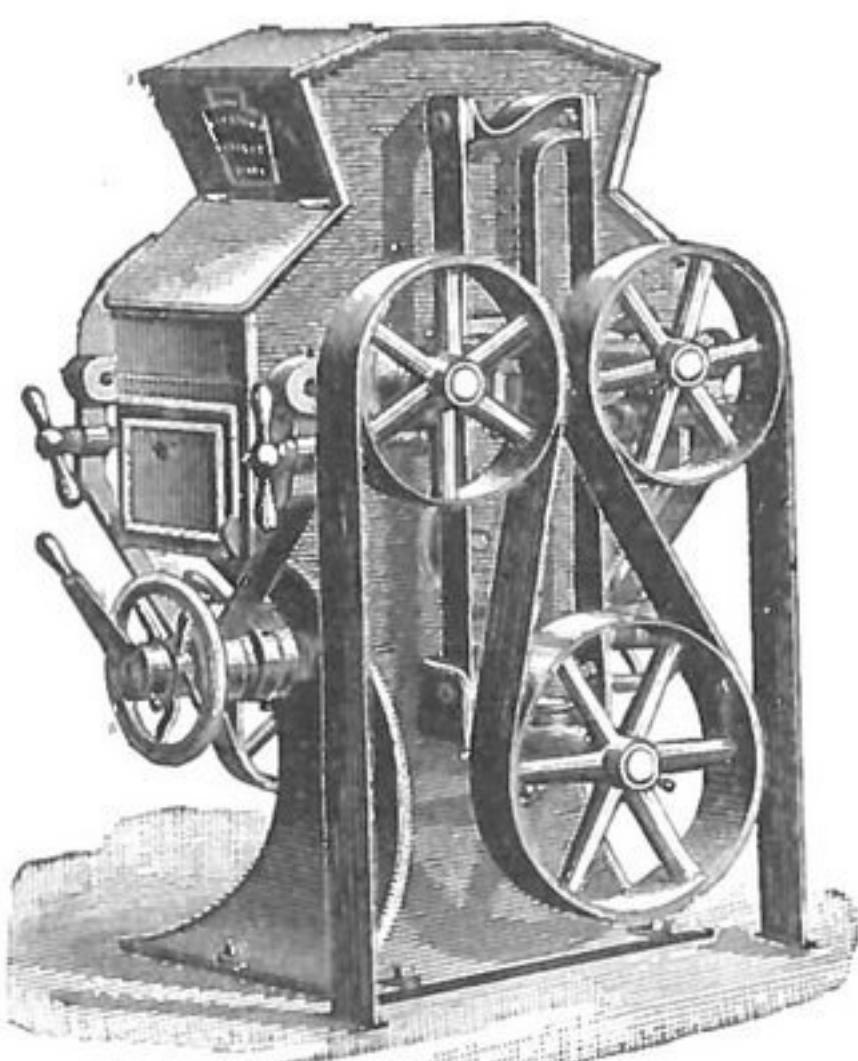


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On Horizontal Shaft. Saves cost, annoyance and loss of power incident to use of gears. Affords more available power from water applied at full or part gate than any other. The cheapest, best and most desirable Water Wheel yet produced.

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KEENE, - - N. H.



Flour Mills. Corn Mills. Hominy Mills. Unparalleled Results.



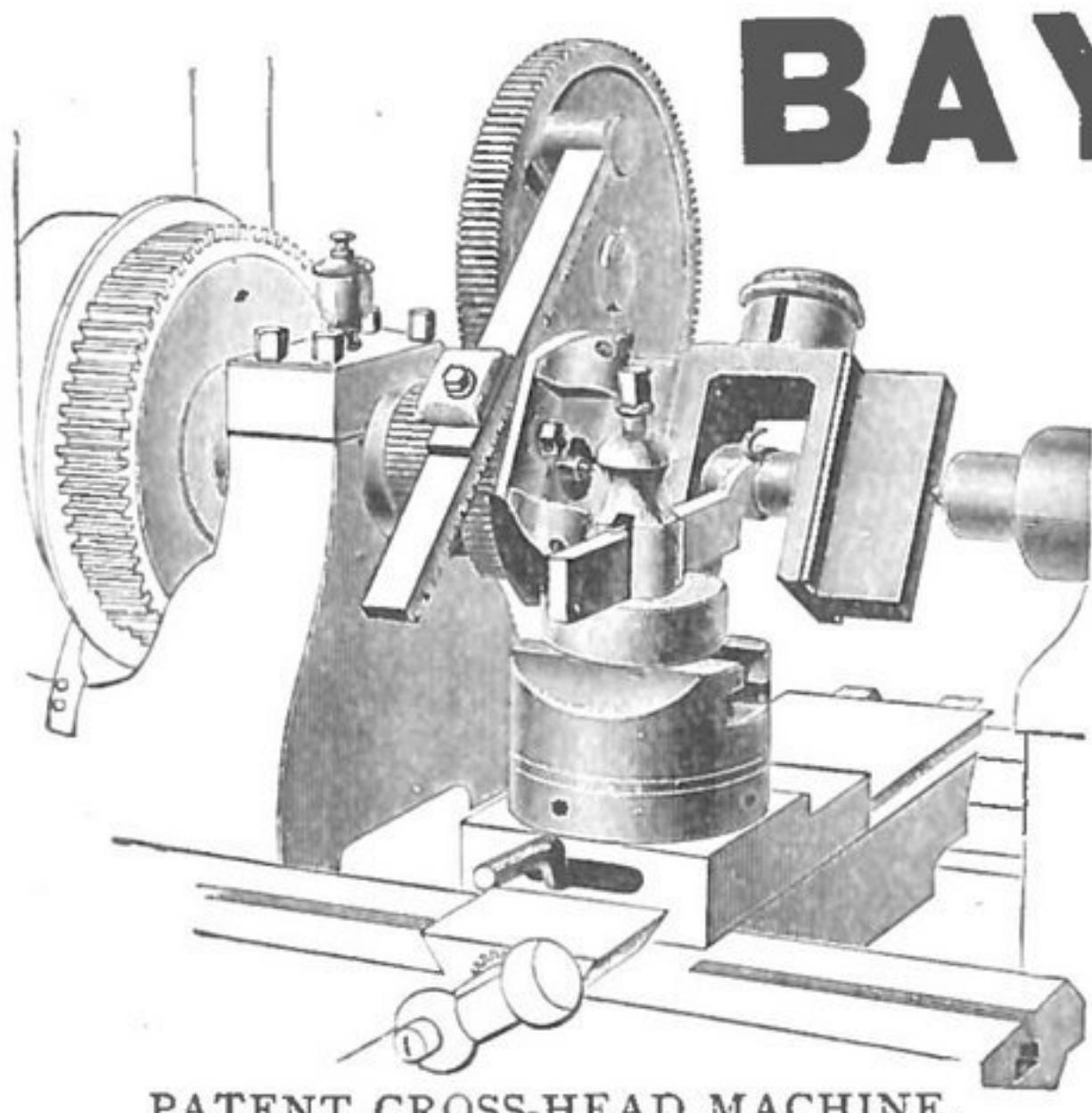
ROLLS REGROUND
AND
RE-CORRUGATED



By the "Keystone" Roll Grinder, Manufactured by Ourselves. The only machine that will Grind Rolls Absolutely True.

"KEYSTONE" 4-ROLLER MILL.

ADDRESS THE J. B. ALLFREE CO., 76 to 78 Shelby Street, INDIANAPOLIS, IND.



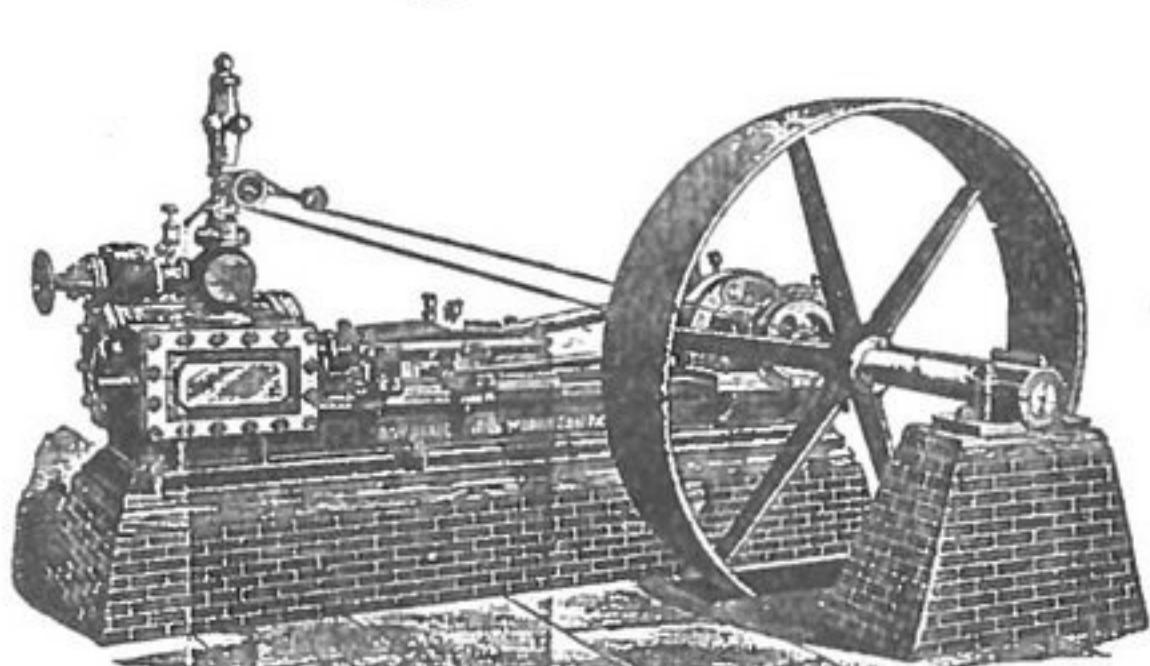
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MANUFACTURERS OF

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Also the Patent Cross-Head Machine and Acme Cube Pipe Tongs. We make either Center or Side Crank Engines, on same bed. Make engines from 5 to 250 Horse-Power. Have over 3,500 Engines and Boilers and over 1,000 Hoisting Machines in use, and all giving good satisfaction. Send for Catalogue and Prices.



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Noble & Hall, Box 462, Erie, Pa.

OFFICE OF

CASE MANUFACTURING COMP'Y

COLUMBUS, OHIO.

The Case Roller Mills. Over 14,000 Pairs in Use.

PLEASE READ OUR DESCRIPTION OF THEM, EVERY STATEMENT OF WHICH IS ABSOLUTELY TRUE.

PLEASE READ WHAT MILL OWNERS SAY ABOUT THEM.



The accompanying cut is a correct illustration of our latest improved Four Roller Mill. For fine work, great durability, simplicity, and general excellence, they stand "head and shoulders" above all others.

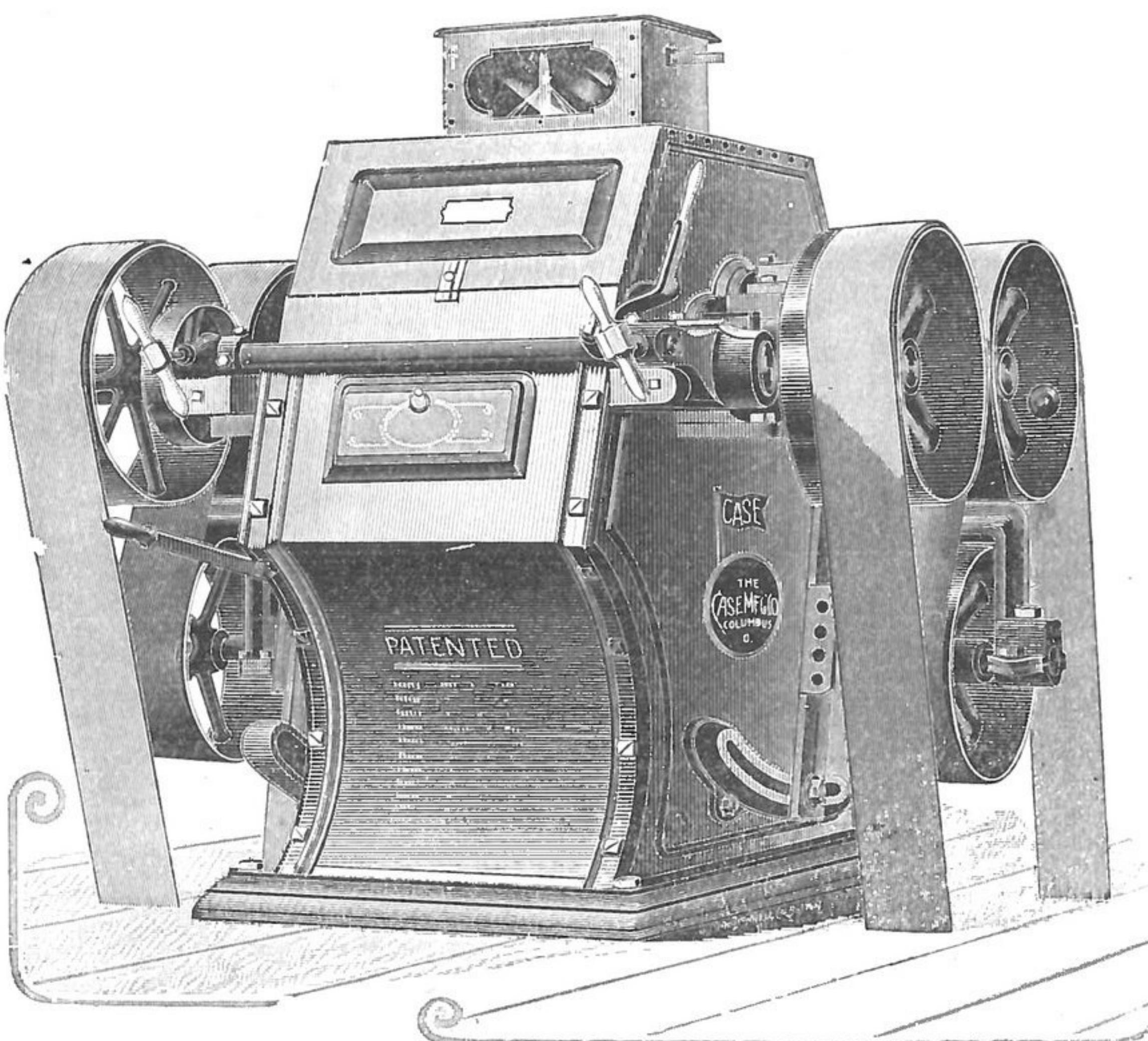
The frame is of iron with a heavy iron base.

The wood-work in top is of select cherry and black walnut, carefully shellacked and varnished.

The handles of adjusting screws and levers are finely nickel plated.

The joints are tight and dustless.

The adjustments easy, simple and perfect.



The roll bearings are wide and finely babbitted.

The belt drive is positive—no little short belts to slip.

The door for examining stock is a great convenience.

The arrangement for leveling rolls, simple and accurate.

The rolls can be thrown apart their entire length by one movement of the lever, and brought back again to original position, requiring no re-setting or experimenting.

Each machine is provided with our AUTOMATIC VIBRATING FEED, which requires no attention, and never fails to spread the feed the entire length of the rolls.



Please Read These Testimonials.

LITCHFIELD MILLING CO., MANUFACTURERS OF FLOUR. }
LITCHFIELD, ILL., Sept. 14, 1889. }

Case Manufacturing Co., Columbus, Ohio.

GENTLEMEN: We are in receipt of your favor of the 11th inst., and in reply would say we have twenty CASE AUTOMATIC FEEDS on our Dawson and Allis Rolls, and we are greatly pleased with them. We have tested the Feeds thoroughly on different materials, and find they work as well on bran and germ and other soft materials, as they do on middlings. We have derived great benefit from the use of them, and can cheerfully recommend them to the milling fraternity.

Yours truly,

J. C. EDWARDS, General Manager.

OFFICE OF A. J. MILLER, PROPRIETOR WHITE ROSE MILLS.
DEALER IN FLOUR, GRAIN AND MILL FEED.
METAMORA, IND., Nov. 19, 1889. }

Case Manufacturing Co., Columbus, Ohio.

GENTLEMEN: Your Feed arrived O. K., and placed it in working order in a very short time. You have furnished me a daisy Feed. After regulating your Feed, it needs no more attention. It pays for itself in one week over the "Roller Feed" in cleaning up the

stock, and also insuring the superiority at same time. I forward you the amount of bill.

Yours truly, A. J. MILLER.

TREZEVANT, TENN., Feb. 27, 1889.

The Case Manufacturing Co.

GENTLEMEN: We have five double stands of Rolls with Roller Feeds on all of them. A short time ago one of your agents induced us to try one of your Automatic Shaker Feeds. We find that it works much better than the Roll Feed, distributing the material the whole length of the Roll. We heartily recommend your feeds to any one wishing to put in new machinery.

Respectfully yours, FUQUA, HARRIS & Co.

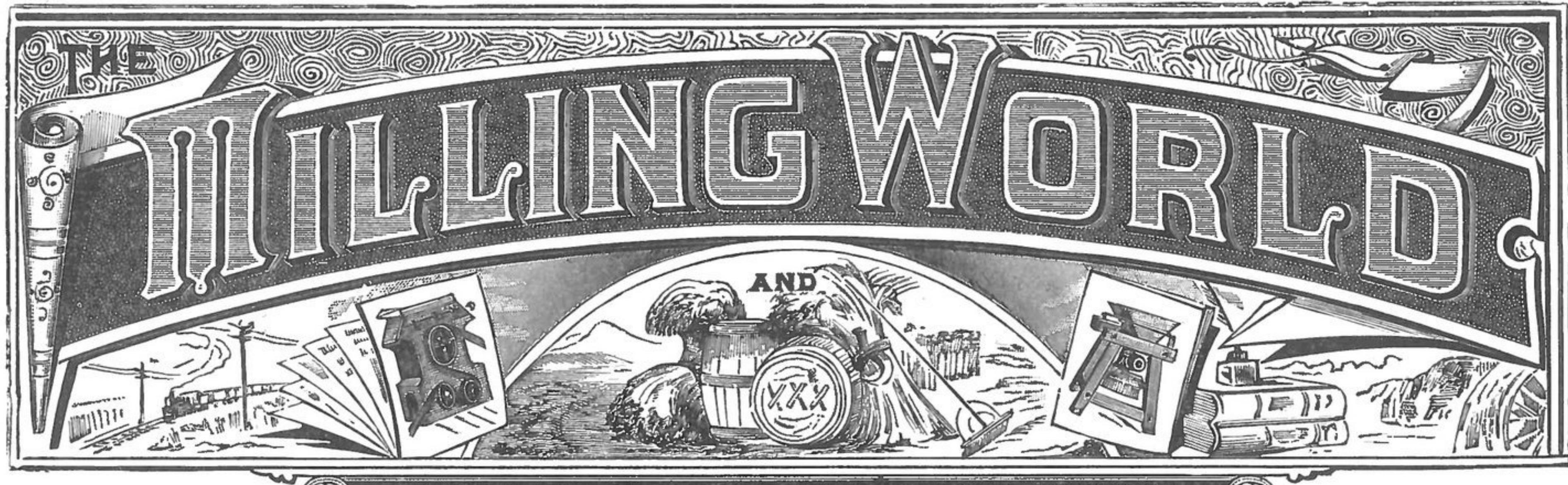
W. C. MANSEFIELD & Co., MERCHANT MILLERS.
CLEVELAND, TENN., Aug. 29, 1889. }

Case Mfg. Co., Columbus, O.

GENTLEMEN: If we were to build a hundred mills, we would not permit any other than the "CASE ROLL" to enter them. They are the best roll on earth.

Yours truly,

W. C. MANSFIELD & Co.



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VOL. XXII. No. 23.

BUFFALO, N. Y., AUGUST 4, 1890.

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EDITOR CAWKER has "let up on" the British milling journals and is bombarding Editor Ranck in great shape. It is very comical, but one can hardly help wondering whether Editor Ranck is aware of the bombardment from the Milwaukee gun.

MANITOBA crop guessers are now estimating the wheat crop of that province at 15,000,000 to 20,000,000 bushels. We would like to see the 20,000,000-bushel figure reached, but we remember the outcome in former years, and we fear that even the 15,000,000-bushel total will not materialize. No wheat has yet been cut in Manitoba, and yet the boomers are setting the yield at "15 to 35 bushels" to the acre. We repeat the old saw about enumerating the poultry after successful incubation. Then the figures will not lie.

GREAT BRITAIN is not rapidly growing independent of the United States in the matter of breadstuff supplies. As the British home production grows less and British needs grow larger, the United States is increasing its consumptive capacity. It follows that, as Great Britain yearly needs more, the United States will be able to furnish less year by year, until the end of her surplus is reached. The Britishers must hustle around and scare up some new and more successful wheat-growing countries to supply her needs in the near future.

SOME of our British contemporaries appear to feel that the wheat-crop reports from Manitoba are wholly unreliable. They rarely reprint the Manitoba estimates, and when they do reprint them they add a codicil expressing their disbelief in them. They should not be too severe on Manitoba. It is a great province, but Manitoba farmers, like the farmers everywhere else, can not control the elements. If the rain will not come, they can not force it to come. If the frost will come, they can not hinder it. If the sun will shine too hot, they can not force it to shine cool. These things are as true of Great Britain as they are of Manitoba and the Dakotas, and British economic and crop writers should remember it.

CERTAIN individuals appear to be very anxious to make it a capital crime to say a word against the Millers' National Association. Those who are familiar with the history of that organization, and who have read the abbreviated sketch of that history circulated at the Minneapolis convention, freely say that the sketch is truthful and mildly drawn, and yet here are some interested parties, ex-secretary Seamans among them, calling that sketch "a tissue of falsehood from beginning to end." According to this sweeping denial every thing in the pamphlet is a lie. Let us examine that charge briefly: 1. The dates in the pamphlet are matters of record. They are not lies. 2. The doings mentioned are matters of record. They are not lies. 3. The growth and decay of the organization are matters of record, and if the record is true, how can it be a lie to repeat the entries? 4. The comments upon the dates, transactions and career of the National are the only things even Mr. Seamans can reasonably criticize, and, unfortunately for him, the majority of the millers do not agree with him. The facts are all against him. It is a

waste of breath to call a man a falsifier, when all his statements are confirmed by facts.

WHEAT humbug is all this crop "estimating" by journals that have gathered no information! Here is one agricultural journal in Chicago "estimating" the wheat crop of Illinois, Indiana, Ohio, Missouri, Kansas and Michigan at 151,983,596 bushels, and to this "estimate" it adds: "Assuming that the crop in the 19 other States in which winter wheat is grown will be equal to that of 1889, allowing for the decrease in acreage, the amount would be 120,360,840 bushels. This, added to our estimate of the crop in the six States named, would make a grand total of 272,344,436 bushels as the entire winter wheat crop of the United States." Now observe, this agricultural "authority" starts in with an "estimate" and ends with an "assuming," and in neither the estimate nor the assuming is there a suspicion of actual information! Yet there are critics who criticize THE MILLING WORLD for ridiculing the absurd "estimates" of these journals. Let it not be forgotten that the only "estimate" made on the crops of the United States that is worth the reading is the Dodge estimate. If that is wrong, with all the information gathered by the government statistician, what possible chance of correctness can there be in the estimates of the Prime, the "Bradstreet's," the "Farmers' Review" and other alleged estimates which are wholly foundationless in fact? Pretension, guessing, supposititious assertions, estimating and assuming are very plentiful in these self-called "estimates," but they all lack most lamentably the one satisfactory element of actual information.

NORTHWESTERN farmers, who have been legislating against railroad and elevator companies as though they were the mortal enemies instead of the indispensable assistants of the grain and meat producers, will receive but little sympathy when their victims turn and retaliate upon them. The farmers of North Dakota are likely to learn a bitter lesson on this subject. They forced through their legislature a law imposing upon all public elevators and warehouses an annual tax of \$2.50 upon every 1,000 bushels of their capacity. Formerly the elevators received the wheat of the farmers, stored it for 15 days without charge, and held it as long thereafter as the farmers desired to have it held, for a small fee. This great convenience is now withdrawn from the farmers by the elevator companies, who propose to store no grain on this crop. They will not transact business as "public elevators," and thus they will evade the new law while punishing the farmers and forcing them to sell their wheat, which they have no facilities for storing, for whatever the elevator owners may see fit to offer them for it. The new law imposes a yearly tax of \$1,250 on a 500,000-bushel elevator, and under the circumstances that is a heavier tax than justice would demand. Should the North Dakota farmers come out at the small end of the horn in their self-inflicted loss and inconvenience this season, they will receive no sympathy, and they may learn a wholesome lesson. They have no granaries, and they have not the means to build granaries, and they are likely to lose a portion of the first good crop which they have harvested in several years.

The DAWSON ROLL WORKS CO. FOUNDERS & MACHINISTS,

—MANUFACTURERS OF THE—

Dawson Roller Mills

—AND FURNISHERS OF—

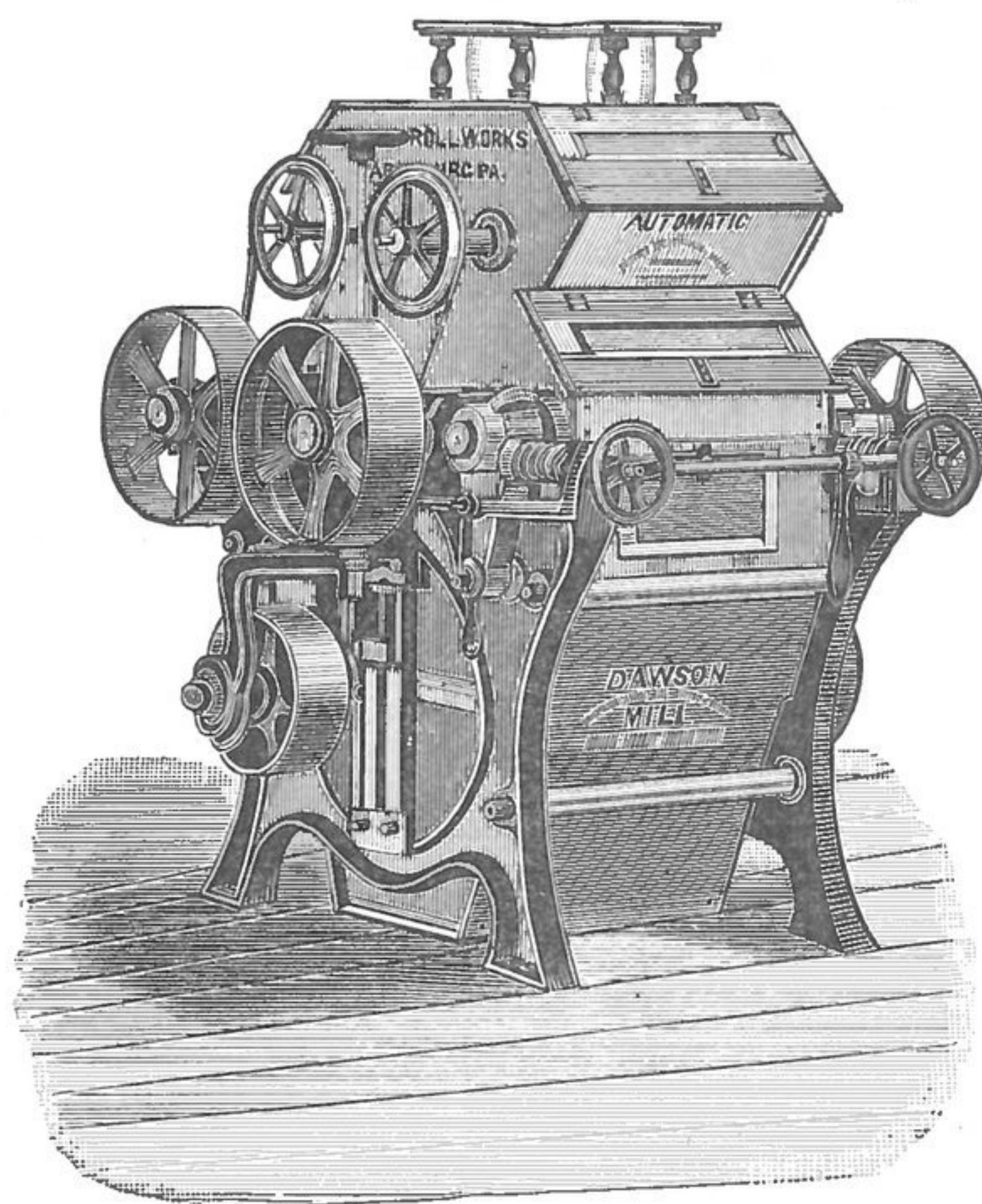
CHILLED IRON ROLLS

WITH DAWSON PATENT CORRUGATION.

**ALL STYLES OF FLOUR MILL ROLLS RE-GROUND AND
RE-CORRUGATED WITH ANY FORM OF CORRUGATION.**

We have had large and extended experience in grinding and corrugating chilled rolls for milling, and have one of the largest and most improved plants in the country for this work, which enables us to meet the most exacting requirements of the trade promptly.

ORDERS AND CORRESPONDENCE SOLICITED.



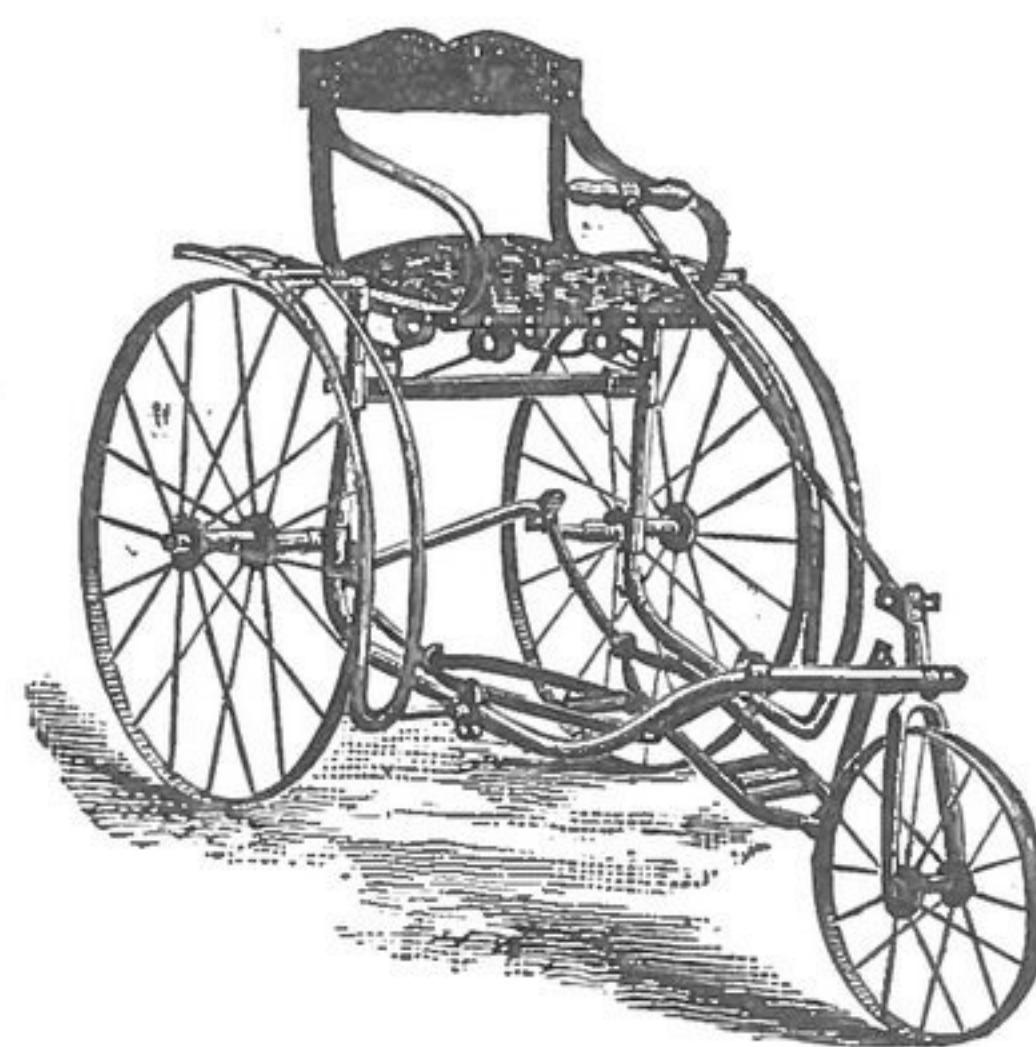
DAWSON ROLL WORKS CO.

South and Short Streets,

HARRISBURG, PA.



BEST STEEL SAFETY MADE FOR
\$35



Easiest LADIES' Tricycle Known

Our Tricycles the Only Machine ever Recommended by Physicians for Ladies and Girls of a Delicate Constitution.

THE BUFFALO TRICYCLE CO.

Manufacturers of Ladies' and Girls' Tri-cycles, Ladies' and Boys' Safety Bicycles, Etc., Etc.

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L. L. WHITLOCK,
Advertising Agent
FOR MANUFACTURERS.
TRADE JOURNALS A SPECIALTY.

P. O. DRAWER 5323. *Boston, Mass.*

As Agent for Advertisers instead of Papers, I obtain the Best Rates Possible for my Customers.

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WITH WHICH THIS PAPER IS PRINTED
IS MADE BY THE
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CINCINNATI, O.



WHEN BUYING A BOILER FEEDER
BUY THE BEST.

Satisfaction Guaranteed.

WRITE FOR CATALOGUE, PRICES,
TERMS, ETC.

AMERICAN INJECTOR CO., NO. 175 Larned St., West, **DETROIT, MICH.**

PUBLISHED EVERY MONDAY. OFFICES: Corner Pearl and Seneca Streets.
MCFAUL & NOLAN, - - - PROPRIETORS.
THOMAS MC FAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

SITUATION WANTED.

Head miller with over 20 years experience want to make a change this spring. Address, A. MILLER, 67 Weaver Alley Buffalo, N. Y.

WANTED.

A company being formed with large capital to operate flouring mill in vicinity of Washington and Baltimore, require a practical miller and first-class manager, who can command ten to twenty-five thousand dollars. For particulars address, HON. CHAS. S. BAKER, House of Representatives, Washington, D. C. 2326

FOR SALE.

A cheap and desirable mill property, consisting of a Grist Mill, Saw Mill, two dwelling houses and all other necessary buildings. The mill has a good custom trade, nicely situated in the borough of New Buffalo, Perry County, Pa. For full particulars call on or address JEFFERSON WADE, New Buffalo, Pa. 2326

SITE FOR A STEAM FLOURING MILL.

A first-class site for a Steam Roller Flouring Mill at Grant, Ashland P. O., Mich. Correspondence solicited by the GRANT IMPROVEMENT ASSOCIATION, L. E. Mills, Cor. Sec'y. 2326

No TIME should be lost in making the Sault Ste. Marie canal, the outlet of Lake Superior traffic, equal to the demands that will inevitably be made upon it. As the Duluth Chamber of Commerce has well shown, that canal is too important a link in our great internal chain of commerce to be left in danger of even temporary stoppage. Congress should promptly appropriate all the money needed to build a larger lock.

BUFFALO comes out of the census struggle with a population, "officially" stated, of 256,543. A "full count" would have shown at least 265,000 citizens, but Buffalo will, perforce, go thundering down the present decade "officially" labeled 256,543. How does that figure, with the Niagara Falls tunnel project and the Niagara River utilization scheme, strike some of the millionaires who are looking for the coming indisputably "supreme milling center"?

ACCORDING to late French reports, not contradicted, the farmers of France have met a serious disaster in the ruin of their cereal crops by excessive rains and winds. The damage is placed at \$100,000,000, and if the reports are true the agriculturists of France have suffered an almost irretrievable loss. Years of extra-favorable crops would be required to make up for so heavy a loss. The situation points to higher prices for bread in France and greatly increased imports of cereals during the next twelve months. The new and higher import duties on cereals take effect just at a time when they will be most seriously felt by the French consumers.

EUROPEAN millers generally are very greatly interested in the reduction of number of grades decided upon by the Hungarian flour-makers. The European markets will probably be revolutionized by the new Hungarian grading. American flour exporters will be quite as much concerned in the grading as the European millers will be, for it is altogether likely that some of the new Hungarian grades will closely resemble the American grades that hold so important a market in Europe. The new grading must certainly imply less cost in production, and that fact means greater ability to push Hungarian flours in the markets where competition with American flours has been severe.

UNFORTUNATELY the Agricultural Bureau has, at different times, made important statistical blunders in estimates of wheat production and wheat reserves, so that attempts at close calculation based upon such estimates lead into the plainest errors.—Minneapolis "Tribune." Of course blunders are always possible, and doubtless the Agricultural Bureau has occasionally blundered, but, if that Bureau, with all its actual information, occasionally blunders, what may be said of the pure fabrications of the outside estimators and guessers, whose work is either pure fiction from beginning to end, or else assumption based on the information gathered by the Agricultural Bureau? Millers should keep in mind the fact that the Dodge reports have generally proved accurate, that they are the only reports that are based on actual information, and that all other reports are absolutely worthless and unreliable, from the fact that they are pure fiction in the interest of the grain-gamblers. The principal critics of the Dodge reports are the gamblers and their organs, whose swindles are made more difficult by the information gathered and published by the Department of Agriculture.

FOR SALE.

Water-power grist and feed mill for sale, at wharf and railroad, near New York. Established business, \$4,000. J. W. ATWATER, 150 Broadway, New York. 1720

VALUABLE ENGLISH PATENTS FOR SALE.

THE COCHRANE ONE BELT DRIVE.

The patents for England issued to the late W. F. Cochrane for improvements in roller mills. Address, J. V. TEETZEL, Hamilton, Ontario, Canada. 1316

FOR RENT.

Clinton Mills, at Black Rock, Buffalo, for rent on reasonable terms, recently repaired and put in good order. Apply to CHAS. DANIELS, over 811 Main Street, Buffalo, N. Y. 6tf

PARTNER WANTED.

A man with capital to take an interest in a new 50-bbl. Roller, Flour and Feed mill. First class water-power. Every thing entirely new and in first class running order. A practical miller preferred. For further particulars address BILLINGS, REDHEAD & CO., Avoca, Steuben County N. Y. 1215

FOR SALE AT AUCTION.

Flouring mill, water and steam power, will be sold at public auction on July 17th, 1890, at 2 o'clock P. M., on the premises. Water power good for nine months in the year. Capacity sixty barrels. A good established custom and exchange trade. Case roller process. Death of proprietor cause of sale. Terms: one-third cash, one-third in one year and one-third in two years, with six per cent interest, secured by mortgage on the premises. For particulars, address J. H. HATCH, Piqua, Ohio. 1920

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make. One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make. One 14-Inch Vertical Feed Mill; best make, new, a bargain. One No. 6 Dustless Separator; new, a bargain. One No. 1 Full Rigged Combined Dustless Separator; new, a bargain. Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour. Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new. One No. 2 Purifier. New. Best make. A bargain. One 20-Inch Portable Mill. One 18-Inch Double Gear Portable Mill. For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf

ON THE DESIGN OF DOMES.

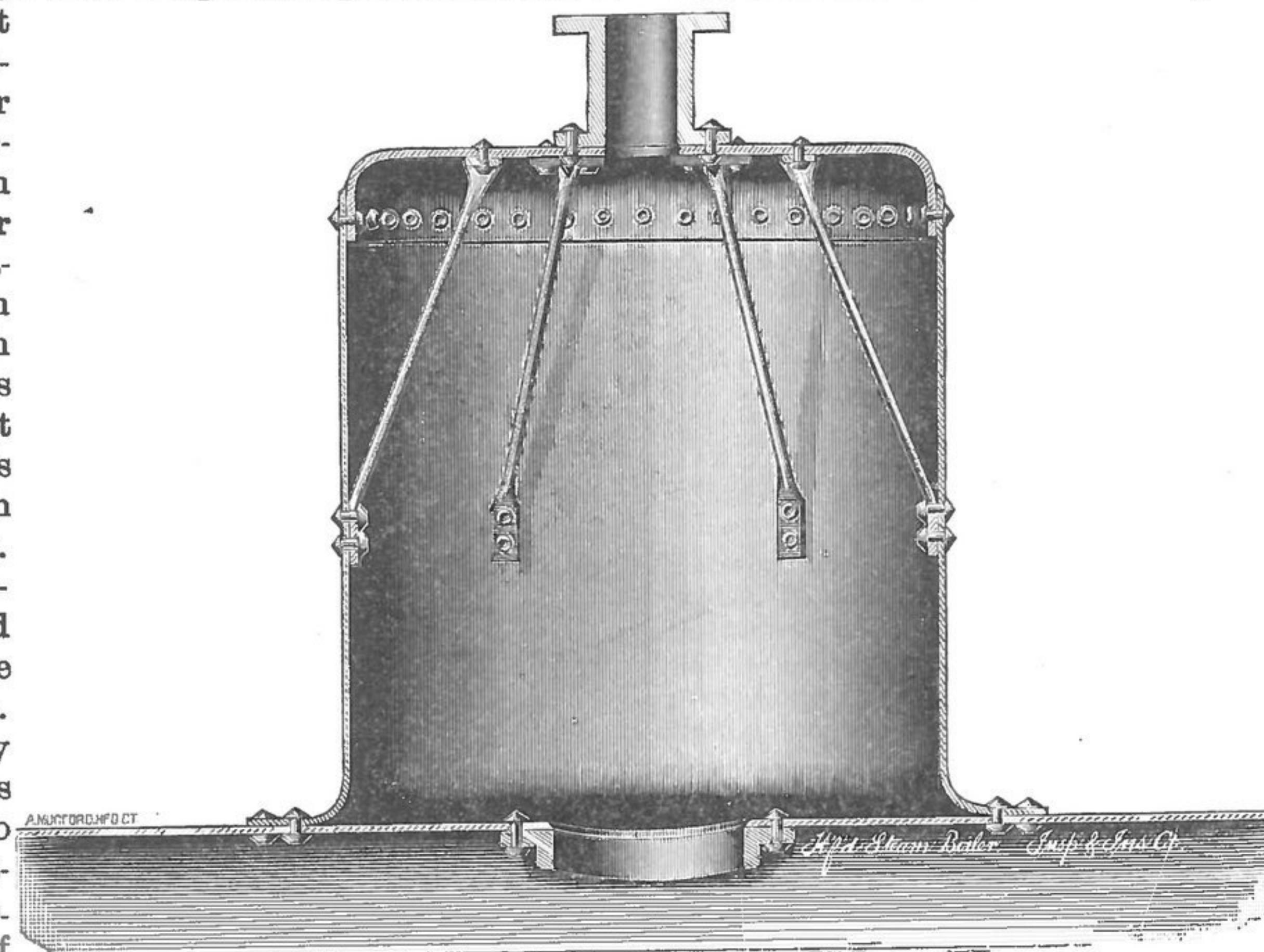
"The Locomotive."

In our last issue we called attention to a faulty arrangement of braces in a steam-dome. A much better arrangement is shown in the accompanying cut. In previous issues of the "Locomotive" we have given our reasons for preferring the ordinary plain tubular boiler to boilers with domes. The reasons advanced in favor of domes are, that they afford a considerable amount of storage room, so that sudden drafts of steam produce less variations in pressure than they otherwise would; and that they materially lessen the quantity of water carried over by the steam into the mains. So far as the first reason is concerned, we may say that we consider it better to dispense with the dome and use a somewhat larger boiler to gain the steam-space; and so far as the second reason is concerned, it may be well to reflect that boilers do not foam or prime to any extent if they are properly designed and supplied with suitable feed water. Nevertheless, many engineers advocate the use of domes, and a large percentage of boilers have them. Many boilermakers cut out the shell the full size of the dome, but this is very objectionable, since it removes such a large portion of metal that the boiler is materially weakened. Others cut out only enough of the shell to allow steam to enter the dome freely, say a 6 or 8-inch circle. While this method of construction is stronger than the preceding and therefore to be preferred to it, it has the serious objection that the interior of the dome is not accessible for inspection or repairs. The proper way, in our estimation, is to cut out an opening large enough for a man to pass through, and to rivet an iron frame to this opening exactly as in making a man-hole. This method is illustrated in the cut, and it seems to be quite free from objection. The necessary strength and stiffness in the shell may also be preserved by riveting two bars of tee-iron to the outside of the shell, one on each side of the opening, giving them the same curve as the boiler, and extending them crossways of the boiler until the ends almost touch the sides of the dome. This stiffens the shell admirably, and, while the man-hole frame is equally good and probably better for a new boiler, the tee-irons may be more readily applied to an old boiler which shows distress around the dome. We do not recommend putting a man-hole in the top of the drum, as is often done. The steam-pipe and safety-valve connections should go there, and the man-hole should be placed elsewhere on the boiler. The bracing of the head is to be taken carefully into account, as well as the opening in the boiler shell. In a 30-inch dome, allowing 3 inches all around as sufficiently stiffened by the flange, there are 707 square inches to be braced. Under a pressure of 100 pounds to the square inch this would correspond to a total pressure on the head of 70,700 pounds; and this, allowing 7,000 pounds to each brace, would call for 10 braces. Now, although 10 braces appear to be required by theory, practice shows that such a large number is not necessary. To explain this disagreement we must consider the real object of the bracing, which is to stiffen the head so that the steam-pressure will not cause it to become convex and tear itself out around the flanges. The riveted joint, by which the head is attached to the shell of the dome, is abun-

dantly strong enough to stand the entire pressure on the head, provided the head is kept flat so that the strain on the rivets is a simple shear. It is the practice among boilermakers to use thicker material in the head than elsewhere, the difference being say $\frac{1}{2}$ of an inch. This increases the stiffness to a considerable extent. Again, riveted to the middle of the head of the dome is a steam-nozzle, the flange of which acts as an admirable stiffener to the part of the head immediately around it, and aids materially in preventing the convexity that the steam-pressure tends to produce. Taking these facts into account, we can understand how it is that experience has proven that 6 braces arranged around a circle are sufficient, they being arranged so as to cover the head as well as possible. Crow-foot braces should be used, as shown in the cut, and the rivets used in securing them should not be less than $\frac{1}{4}$ of an inch in diameter. Although a single row of rivets is sufficient around the upper end of the dome, where the strain is all of the nature of a shear, the lower flange should be double riveted, since the strain on the rivets at this point is tensile and tends to strip off the heads. To free the dome from water that would otherwise collect between it and the sides of the boiler shell, we recommend that a number of small holes be made in the shell of the boiler at the point where the dome comes furthest down the side. We also recommend that wrought-iron heads be used on domes in every instance. Our experience has been such that we can not recommend cast-iron in any case.

POINTS IN MILL-
ING.

FOLLOWING are several specimens of questions submitted to the candidates for the City and Guilds of London Institute Milling Technological Examinations, held throughout the United Kingdom on the 30th of April, 1890, together with answers by a roller miller in the London "Miller" of July 7: "You are supposed to be foreman having charge of a large roller plant, and you start on a tour of inspection to



A CORRECTLY DESIGNED DOME.

see that everything is in good order and doing proper work. Indicate the special points to which you would give attention, and reasons for so doing." The point to which, as foreman, I should first direct my steps, as well as the exact order of procedure, would necessarily in practice depend upon the construction and internal arrangements of the mill, for obviously, as a responsible man, my aim should be to economize my own time and labor, and this could not be done by rigid adherence to any given programme, which, suitable as it might be for certain places, would not be so in all. The subsequent remarks must be taken as indicating what I should like to follow if the system were suitably arranged. Commencing, then, with the clean wheat feeding the first break, my attention would be directed to its condition and finish. The appearance of undue quantities of refuse, of stone, dirt, rye, garlic or smut, would cause me to send for the wheat-cleaner, requiring his attention and explanation. Unless it appeared a case of urgency, I should leave this to him for the time being, intending to look into it after my walk through the mill. A glance at each grade of finished flour would indicate how the dressing-machines were going on, and would, if needed, enable me to direct attention to faulty covers. Before going further a look at the finished offals would be in order, just to see that waste was not going

on, and the pressure on rollers about as required. The roller floor, being low down in the building, would engage attention, special points being the feeds, appearance of material coming on each pair (any radical change overhead can readily be detected by any man who knows the history of every feed), and the condition of some few of the rolled products. Some of the break-rollers would be examined, and the man in charge might probably have some special points to discuss. This settled, and having taken a general survey of the situation, especially as to hot bearings, slipping belts, untidiness of machinery or room, I should proceed to the upper floors, taking the purifier department for critical examination. Practically this section is the keystone in the fabric of modern milling, and knowing this, I should in a large mill, as a rule, bestow more time and care herein than in any other part. Assuming that the purifiers are of a type up to date, I would keenly examine all separations, having in view to send to my patent flour-rollers material as near to purity as could in practice be obtained. To this end the man in charge would be expected to keep plenty of air going through, especially at the coarser grades, wherein much fluffy fiber is found. The cut-offs, tails, exhaust material, all would be tested if time allowed. The general appearance and working of this group would be closely scanned, any change deemed necessary being brought under the notice of the operative, the reason for such being given, as my experience teaches that a man takes far more interest in his duties when the foreman or master does this. Passing on, the principal flour runs would be examined, as also the dressing-machines, though I should never take the covers down without a tangible object for doing so. Dust-collectors, weighers, fans, elevators and sundry mechanical items would receive notice, any defect either noted for future repair or put into a mechanic's hands for immediate cure. The wheat-cleaning department, which was reserved, has now to be visited, and the main points would be taking note that machines are reasonably clean, steady in running and making proper separations, and that all dust and by-products were sacked up and stowed for sale or future treatment. All frictional machines need more care and adjustment than most separators; they would therefore be most frequently examined. Referring to the entire mill, I should be everywhere watchful for evenly running belts, gear-wheels and shafting. Lubrication should ever be in view; just placing the hand on a journal or plummer block will tell me if heating is going on. The speed of all machinery being a point of importance, I should watch for any irregularity and send to the engineer promptly if any slackening came under notice. Repair work for belt-maker, carpenter or fitter might be expected, and to such I should give some attention. All the above, with the oversight of the men engaged, and the giving my directions in any change or emergency, would in my view comprehend the leading features of my duty as a responsible man.

"You are testing flour by Pekar's method, two flours, and holding them before you, you find the left to be best, but upon reversing positions, the other is the best; to what is this due, and how will you proceed to determine whether any difference exists? Give the shades of color by Pekar's test which you know by experience bake out well, and those which do not." The apparent alteration in appearance of those flours is due to holding them in a particular position, whereby a shadow falls on one of them, but by turning the board the other sample receives that shadow, and hence the alternate darkening as the board is reversed. It is a very common experience with those who test flour in this way and can only be avoided by changing the position till a perfectly even light falls on both, when any real difference in color may be noted. Strong glaring sun rays are very deceptive, and so are flickering shadows. A quiet, even light should always be preferred, otherwise skilled operators can quite readily make mistakes. The shades of color under the Pekar test, which I know to work out best, are clear whites, gray whites and clear bright yellow tints. If after drying for five hours these colors are well defined, the quality is good of its kind. Flour which dries off blue, or dull

white, brown, or deep yellow is not likely to come out of the baking test in a satisfactory manner. Special attention should be paid to the inner or ground color. Many persons would attach much importance to a few specks which a practical miller would know to be due to defective wheat-cleaning, purification or dressing. Such flour may bake well, the specks being hardly discernible. It is a very old trick of the miller's, and one that is yet extant, to dress low-grade flour very finely. This is deceptive and has no doubt helped to sell faulty flours often. The above test would, as a rule, expose the trick, for a poor flour, however finely dressed, is bound to display its inherent want of purity, while a really sound flour can, though besprinkled with many particles of bran, yet yield thoroughly sound and nice looking bread.

"Give the usual speeds for breaks and smooth rolls. The periphery speeds of their slow and feed-rolls. If it were possible to get the feed on to the slow roll at the periphery speed it was going, what difference would you expect to find in the reducing power of the roll? Give your deductions therefrom." The speed of rollers is governed to some extent by their diameter. Six-inch rollers run faster than those of 9 or 10 inches. Taking the 9-inch size as being the most widely used, the speeds for breaks vary from 200 to 320 for fast rollers, and from 100 to 150 for slow. Smooth rollers are speeded: fast 200 to 250; slow 150 to 180. The principles which appear to guide makers and millers on this subject are that the first breaks run slower than the latter, and that on smooth rollers the highest speed is given to rollers treating fine middlings or dunst, the slowest to the machines fed with granular coarse stock. Feed-rolls are generally made about 4 inches in diameter and have a speed of 50 per minute; such a roller has a periphery speed of about 52 feet per minute, while a slow roller, 9 inches in diameter, at a speed of 170, has peripheral velocity of 406 feet per minute, nearly eight times as fast as the feed-roller. Supposing it were possible to feed the rollers at a speed as fast as the slow roller's surface velocity, the quantity per hour remaining as before the speed was increased, I conclude the rollers would exert greater pressure upon it, because the stream of material must necessarily be thinner, and it is a recognized fact among roller men that lessening the feed means improved reduction and easier running. From this I draw these deductions: 1. That to do equal work on the material less strain would be imposed on the machine as a whole, and upon its driving belt. 2. That the material, whether coarse or fine, might be handled to better advantage and with less crushing and flaking. 3. That consequently the dressers following should make more flour per hour from a given weight of middlings. 4. The flour should be in better form, both as to granularity and clearness. 5. The finish of offals would be under control of the operative more completely and at a less cost for power and wear and tear of machinery.

COTEMPORARY COMMENT.

The National Convention did not attract a very great number of Kansas millers. We have no excuse or reason to offer for the lack of interest in the matter, but hope to see more interest taken in the future. There is no question, in our opinion, but what the "capacity" voting clause in the new constitution serves to keep out a large number of small millers, who feel that they are simply going along with the big Minneapolis crowd and "doing as they are bid." As long as such a feeling exists and any real reason can be found for its existence, there is not going to be any great rush of the small millers to the National Association.—*Enterprise "Kansas Miller and Manufacturer."*

Kansas papers are very sensibly advising their farmer readers to hold on to their wheat, selling only what they are positively compelled to, until they can command better prices than at present.—*Kansas City "Commercial."*

The Argentine Republic is in a state of revolution. The rebels are in possession of the capital city of Buenos Ayres and President Colman has taken refuge on a foreign man-of-war lying at anchor in the harbor. The interior provinces are supposed to be solid for the old government, and the

seaport provinces, where the wealth and intelligence of the country are to be found, are for a change. The next presidential election will not occur until 1892, which was too long for our fiery Spanish-American cousins to wait. Dissatisfaction over the reckless financial management of the government is the cause of the revolution. The war between San Salvador and Guatemala is one of the periodic outbreaks incident to tropical life. Mexico is mixing in and will probably turn in and swallow the fighters. Repudiation is probably the ultimate object of our quarreling neighbors in South and Central America. They have in all likelihood borrowed all the money they can and are now ready to wipe off the slate and begin anew under another name. Spanish-American countries do business very largely on the rules that govern bucket-shops. They keep open as long as the money flows in. When the tide changes the doors are closed. A few days later a new firm begins business at the old stand.—*Chicago "Daily Business."*

POINTS IN BELT DRIVING.

Following are some points, some valuable and some otherwise, on the driving of belts, printed in an advertising circular by a Scotch belt-manufacturing house. American operatives and manufacturers may not accept all the statements as reliable or just, but the list of hints is interesting and will repay perusal: 1. Before starting any new belt-driving arrangement, a thorough examination of the shafting and pulleys should be made. All ought to come under the test of the measuring-rod, the plumb, the level and square, because the best engineering is sometimes disarranged by the subsiding of the mason-work. It is often found in experience that the pulleys are so hung on shafting as to remove the periphery from the center of the pulley to one of the sides, with the result that when a start is made the belt seeks the highest point and will travel off the pulley. It is also found that shafts which are not perfectly parallel have the same effect on the pulleys and belt. The very smallest departure from truth upon a shaft will make considerable change upon the face of a pulley of large diameter hung upon that shaft.

2. All ordinary pulleys up to 12 inches broad should have a round or curve of not less than $\frac{1}{2}$ of an inch; others, ranging up to 24 inches broad, should have a curve of not less than $\frac{5}{8}$ of an inch; while the curve of such as are over 24 inches broad should not be less than $\frac{1}{2}$ inch. For pulleys 12 inches in diameter and under, running at very high speeds, the curve ought not to be less than double the foregoing.

3. Main driving-belts save expensive breakdowns, the rumbling noise of gears, costly foundations and the continual application of wheel grease.

4. Belting is a soft and most elastic transmitter of engine power. It is also the most economical and satisfactory driver.

5. A main driving-belt transmits power in giant form and without loss.

6. Textile ropes waste engine power. Each rope pulls for itself. As a body such ropes work with unequal strain and traveling speed.

7. Every inch in width of good double leather belting, traveling at 500 feet per minute, will transmit one horse-power.

8. Every inch in width of good single leather belting, traveling 800 feet per minute, will transmit one horse-power.

9. A comfortable working strain for a single belt is about 50 pounds for every inch of breadth, and for a double belt 80 pounds.

10. One or more belts running independently on the top of another will add much to the transmission of power.

11. A belt running with the flesh side next the pulley will wear longest, because it is working according to the natural growth of the hide.

12. A smooth and elastic driving face can be put on the flesh side of the belt by painting it over several times.

13. If the slack side of a main driving-belt runs in wave form, it is certain that the engine is getting more steam on one side of the piston than on the other.

14. A badly balanced pulley running at a high speed will impart an unsteady motion to the belt running on it. The machine so driven makes bad work.

15. Flanged pulleys destroy many good belts. A properly rounded pulley will retain the belt on the center. A belt ought only to have contact with the pulley face.

16. A heated bearing will throw ropes out of the grooves or cause belts to leave the pulleys, sometimes leading to an expensive breakdown.

17. When a pulley has the appearance of polished silver, then be sure the belt is slipping. An application of belt grease is needed to cure this.

18. The driving side of a belt should be kept clammy. The belt will then run back without slip.

19. A belt slips only when it gets too heavy a load to drive, or when it gets dry and out of condition.

20. When a belt gets saturated with waste oil, an application of ground chalk will soon absorb the oil and make the belt workable.

21. Belting having joints cemented only is quite as good as if the belt were formed of solid leather from end to end. It lasts much longer and drives better than when cut up with sewing.

22. Belts running over pulleys of small diameter at high speeds ought to be as thin and as wide as possible. Orange-tan leather of uniform thickness answers remarkably well.

23. Thin belts, as wide as possible, give by far the best results working vertically. A thick vertical belt will not hug the pulleys.

24. Orange-tan belting, either double or single, works much steadier than any other class for long-distance driving.

25. Orange-tan leather makes the best belt for running at high speeds, being light, tough and almost without stretch.

26. For machinery requiring the continuous shafting of the belt, single ox-hide or orange-tan leather is too thin; but double ox-hide is highly recommended.

27. Giraffe-hide belting, made of oak or orange-tan leather, is from $\frac{1}{8}$ of an inch to $\frac{1}{4}$ of an inch thick, very strong, and suitable to belts that have to be often shifted, such as driving self-acting mules, circular saws and iron planers.

28. A cross-belt should not be put on the pulleys in such a way as to cause the ends of the splice to meet at the place of crossing. If so, the joints will soon tear up.

29. The cushion of air retained between the pulley and a flat belt prevents perfect grip. By using leather-link belting there is no slip, as the air escapes between the links.

30. Leather chain belting, cut from the butt, when made to suit the round of the pulley, will transmit from 25 to 30 per cent. more power than a flat belt.

31. Chain belting made of orange-tan butt leather is very suitable for all sort of drives. For running electric-lighting plants, engineers' tools and wood-cutting machinery it beats all others.

32. Pulleys on which leather-link chain belting is working very soon assume a dull lead color, indicating that there is no loss from slip.

33. For quarter-twisting driving and working on tapered cones the patent thick-sided leather chain belt is proving a very great success.

34. Orange-tan leather rope, one inch square, running at 3,000 feet per minute, on pulleys not less than 4 feet in diameter, will transmit 40 horse-power.

35. Long-staple cotton belting works very satisfactorily in warm climates, paper mills, wet spinning-mills and dye-works, and for outside driving in all weathers. It is almost without stretch.

36. Lama-hair belting is the strongest hair belt made and is most suitable for warm climates and wet atmospheres. It is non-extensible.

37. For outside driving, lama-hair and cotton belting require no other covering than a coating of boiled oil painted over them now and again.

38. A circular saw belt ought not to be narrower than $\frac{1}{2}$ of the diameter of the saw. The spindle-pulley should be as great in diameter as the width of the belt.

39. Do not grudge an extra inch of belt where there is pulley width.

40. Belts should have pulleys of as large diameter as possible to work upon.

41. A good machine is most valuable when driven by a proper belt.

42. An overworked belt gives much vexing trouble and wastes more money than can readily be counted.

43. An underworked belt never ruffles the temper of its owner. The volume of its work is constant and steady.

44. Good belting keeps the machine fully employed.

45. Cheap belting, so called, is as unsatisfactory for heavy work as cheap boots are for heavy weather.

46. Never allow dust to cake upon the pulley or belt. The lumps so formed prevent the belt from having proper pulley contact.

47. When a belt breaks from fair strain, it bursts nearly straight across at the weakest part. When a belt is broken diagonally across the solid leather, then be sure it is torn by something else than fair strain.

48. Table, showing the tensile breaking strain of leather belting, by Salter's testing machine: One square inch of British oak-tanned leather belt stands 5,746 pounds. One square inch of American oak-tanned leather belt stands 4,974 pounds. One square inch of British common oak-tanned leather belts stands 4,243 pounds. One square inch of American common oak-tanned leather belt stands 2,708 pounds. One square inch of British orange-tanned belt stands 8,244 pounds.

The August *Century*. It is because "The Anglo-maniacs" presents a novel aspect of New York life with uncommon pith and wit that the third part, in the August number of *The Century*, will be probably that portion of the magazine to which most readers will first turn. In the new chapter of Mrs. Barr's striking novel "Friend Olivia" the heroine sets sail for America with her father, who goes in search of religious freedom and converts. The short story of the number, "The Emancipation of Joseph Peloubet," by John Elliott Curran, introduces a Frenchman who turns his back in disgust on the Second Empire, starts a newspaper in New York. Few readers will reach the end of the second paper by Dr T. A. Mann on his experiences as "A Yankee in Andersonville" without being profoundly touched by the pathos of his helpless journey to his home in Boston. Another article bearing briefly on the history of the war is Miss S. E. Blackwell's statement in "Open Letters" of "The Case of Miss Carroll," whose claims for services to the Union are still unconsidered by Congress. In the tenth part of "The Autobiography of Joseph Jefferson," the comedian writes most entertainingly of John Brougham, Edwin

"ELECTRIC" BELT DRESSING.

A WONDERFUL LEATHER PRESERVATIVE, suitable for Leather, Rubber, Cotton or Rawhide Belting. Belts dressed with this dressing will last twice as long and transmit 100 per cent. more power. Save your Belting and prevent heating of journals by running them under a reduced tension. Sold on approval to responsible parties. SEND FOR CIRCULARS.

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Steam Engine Catechism...complete..... \$2.00
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A very common-sense book for everybody.

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Helps you to learn or remember how to take the square root of anything.

Hints On House Building..... \$.50

Useful to every house owner or renter.

Sent post-paid to any address on receipt of price by

McFAUL & NOLAN,

Drawer 203, Buffalo, N. Y.

Adams, Charles Fechter, George Holland, and of other favorites who have not long been absent from the stage. Another illustrated feature of the number that is pervaded by an artistic personality is the fifth installment of John La Farge's "Letters from Japan." There is also a decided literary quality in Mrs. Amelia Gere Mason's fourth paper on "The Women of the French Salons," John Muir contributes an important paper on "The Treasures of the Yosemite." Other illustrated features of the number are W. J. Stillman's paper on the "Italian Old Masters," Sandro Botticelli, with three full-page engravings by Cole; an entertaining account by Gustave Kobbe of "The Perils and Romance of Whaling"; and the second part of Harriet W. Preston's "Provencal Pilgrimage," illustrated by Pennell. President Eliot of Harvard contributes "The Forgotten Millions." In "Topics of the Time" there is a discussion of the "Distaste for Solitude," of "The New School of Explorers," as exemplified by Stanley, and a brief comment on Mistral and his poetic country of "Provence." In "Opens Letters" the Rev. Alfred J. P. McClure describes the work of the "Siberian Exile Petition Movement of Philadelphia," and Abbot Kinney replies to Major Powell's article in the April *Century* on the arid regions of the West. Besides the poems in "Bric-a-Brac," the number contains a charming poem on Shakespeare by Thomas Bailey Aldrich, entitled, "Guilielmus Rex," and poems by Harriet Prescott Spofford, Frank Dempster Sherman, Edith Thomas, Bliss Carman and Charles G. D. Roberts.

SPECIAL NOTICES.

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Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

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MILL PICKS.

Made of the best double-refined English cast steel. All work guaranteed. For terms and warranty, address, **GEO. W. HEARTLEY**, No. 297 St. Clair Street, Toledo, Ohio. Send for Circular.

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CORNISH'S (OLD ESTABLISHED) ORGANS AND RELIABLE AND PIANOS!

THE ONLY FIRM OF MANUFACTURERS IN AMERICA selling direct to Consumer. From Factory to Family at Wholesale Rates on Terms to suit Purchaser.

\$75 ORGAN EXACTLY LIKE THIS CUT **\$50**
SOLD FOR After ten days' trial,
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Handsome Stool and large Instruction Book, making a Complete Musical Outfit.

HOW TO ORDER. Send a reference as to any Banker, Postmaster, Merchant or Express Ag't, and Organ will be shipped at once on Ten Days' Test Trial, and if not, after trial, satisfactory, you can return it and we will pay freight charges both ways. **YOU RUN NO RISK.**

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CORNISH'S GRAND, SQUARE PIANOS AND UPRIGHT

Magnificent New Designs, finest materials, wholesale prices, upon terms to suit all purchasers. Shipped to any part of the civilized world, on free test trial.

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CORNISH & CO. (OLD ESTABLISHED) WASHINGTON, AND RELIABLE, NEW JERSEY.



WOOD-PULP BY ELECTRICITY.—Pulp manufacturers are deeply interested in an electrical method of reducing the wood in the manufacture of pulp. By this process it is claimed that the fiber is manufactured so cheaply that the entire business will be revolutionized and the digesters now in use driven out.

GENERAL NOTES.

The following table shows the value of imports and exports of merchandise for the United States for the past ten years:

Years.	Value of imports.	Value of exports.	Excess of exports.
1881.....	\$642,664,628	\$902,377,346	\$259,712,718
1882.....	724,639,574	750,542,257	25,902,683
1883.....	723,180,914	823,839,402	100,658,488
1884.....	667,697,698	740,513,609	72,815,916
1885.....	577,527,329	742,189,755	164,662,426
1886.....	635,436,136	679,524,830	44,088,694
1887.....	692,319,768	716,183,311	23,863,443
1888.....	723,957,114	695,954,507	*28,002,607
1889.....	745,131,652	742,401,375	*2,730,277
1890.....	789,335,855	857,856,159	68,520,304

* Excess of imports.

Our exports and imports of gold and silver during the last fiscal year were as follows: Exports \$52,129,202; imports \$34,902,949, an excess of exports over imports of \$17,226,253. The excess of exports over imports of specie during the fiscal year 1889 was \$67,678,460, and during the fiscal year 1888 the excess of imports over exports of specie amounted to \$12,923,803. The exports of gold during the last fiscal year amounted to \$17,274,491, and the imports of gold to \$12,916,292, an excess of exports over imports of \$4,358,199. There has been an increase in the volume of immigration into the United States during the last fiscal year, the number arriving being 451,219, against 438,619 during the fiscal year 1889, an increase of 12,600.

THE SAULT STE. MARIE CANAL.

At a meeting of the Board of Directors of the Duluth Chamber of Commerce, held Tuesday, July 22, 1890, the following memorial, presented by the Secretary, S. A. Thompson, was unanimously adopted:

CHAMBER OF COMMERCE,
DULUTH, MINN., July 22, 1890. {

To THE HONORABLE HOUSE OF REPRESENTATIVES,

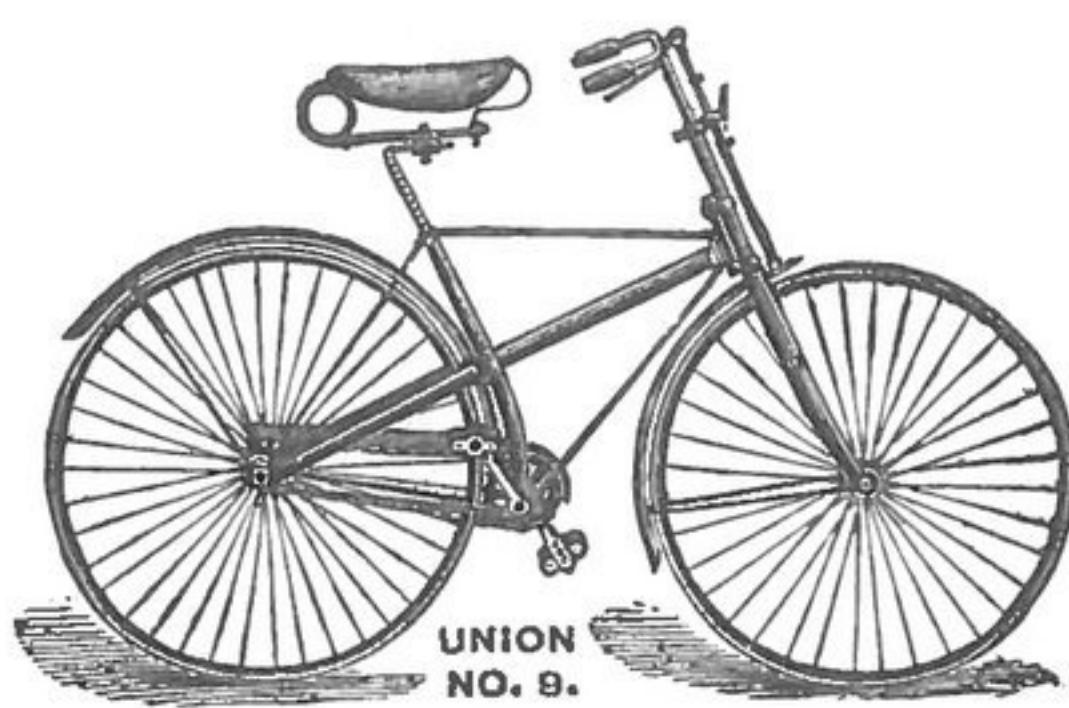
Washington, D. C.:

The Duluth Chamber of Commerce, representing very large interests directly affected by the conditions of transit through the St. Mary's River, respectfully and earnestly appeals to the Honorable House of Representatives to perfect at once the legislation needed for the completion of the lock and canal at Sault Ste. Marie, and its supplementary work, the Hay Lake Channel. The conditions at present existing are of such a character as to constitute an emergency of the gravest kind. Lake Superior, at the head of the eastern drainage system of the continent, and reaching into the vast plains of the interior, is the sole instrument of exchange, by water transportation, between the East and a large portion of the West and Northwest. With the single exception of the Detroit River, through which passes the commerce of Lakes Michigan and Huron, as well as of Lake Superior, no other interior waterway in the world carries so great a commerce as the canal around the rapids of the St. Mary's river, which is the only passage way to and from Lake Superior. Through this canal, with its single lock, on which all now depends, there passed during the 234 days of navigation in 1889 just 9,579 vessels, carrying 7,516,022 tons of freight. During the whole of 1889 there passed through the Suez canal, a channel for the commerce of the world, only 3,425

vessels, carrying but 6,783,187 tons of freight. The annual increase in the traffic of the Sault canal is enormous, having been considerably more than double in 1889 what it was in 1885. Already during the season of 1890 the single lock has been pushed to its utmost capacity for a period of 46 hours and 48 minutes, without a moment's intermission, day or night. The engineer in charge estimates that four years will be needed, under the most favorable circumstances and with all the money necessary supplied as fast as it can be used, to complete the new lock, on which work is now in progress on the foundations only. If the traffic continues to increase at the same rate as in the recent past the canal will be choked with vessels waiting for passage through the lock, and the commerce of Lake Superior will be seriously crippled, long before the new lock can be completed. Nor is this all. The excavation for the foundation of the new lock has been carried 54 feet below the level of the water in the canal, which it immediately adjoins. The enormous pressure of water under such a head is a constant menace to the safety of the canal, to say nothing of the possibility of disabling injury to the gates of the existing lock. The 7,516,022 tons of freight which passed through the canal in 1889 were moved an average distance of 790.4 miles at a total cost of \$8,634,246, or a little less than 1½ mills per ton per mile. The average cost of freight transportation on 18 of the trunk railways in the United States in 1888 was 9.74 mills per ton per mile, so that if the freight which passed through the Sault canal had been moved an equal distance by rail, the cost would have been \$57,862,065, nearly \$50,000,000 more than the cost of its transportation by water. Nor is this sum, vast as it is, the measure of the calamity which would be involved in a disabling injury to the canal or present lock. Rail rates on the trunk lines are made under pressure of competition with the water route. With this competition removed rail rates would undoubtedly be increased. Large quantities of this freight could not bear the cost of transportation by rail. It must be carried by water or it can not be carried at all. Of the freight carried through the Sault canal in 1889 there were 4,095,855 tons of iron ore, 16,231,854 bushels of wheat, 2,133,245 bushels of corn and other grain, 2,228,707 barrels of flour and 1,629,197 tons of coal. A suspension of traffic through the Sault canal, by an accident which may occur at any time, would mean a suspension of operation in the iron mines of Michigan, Wisconsin and Minnesota, in the blast-furnaces and rolling-mills of Pennsylvania and Ohio, and in the smelters of Montana. It would mean for the farmers of Minnesota, the Dakotas, Nebraska and a third of Iowa a lower price for every bushel of grain produced, and an enormous increase in the cost of coal. To the toiling thousands of the manufacturing centers of the East it would mean less work, for many of them, indeed, no work at all, while it would increase the cost of every loaf of bread. If this passage way were blocked for any length of time, it would mean paralysis of trade and financial disaster, not to one city or one State alone, but to the whole country. The interests involved are not local; they are not even sectional; they are national. Nowhere else in all the world do interests so vast hang on so slight a thread. Each moment of delay is big with possible disaster. A bill appropriating the necessary sums, respectively, \$3,738,865 for the lock and canal, and \$1,684,115 for the Hay Lake Channel, was passed by the Senate early in the session, and several weeks since was favorably reported to the House by the unanimous vote of the River and Harbor Committee. This Board, therefore, in view of the pressing necessities of this case, respectfully renews its appeal to the Honorable House of Representatives for immediate action in the premises."

MR. C. A. PILLSBURY, the big English syndicate mill manager of Minneapolis, who is in Europe, is talking the American wheat crop down to 60 per cent. If northwestern reports are at all reliable, he has no reason to set so low a figure for the spring-wheat crop. Of course the English combination in Minneapolis may find it profitable to "bull" on this crop, but even a Minneapolis millionaire manager can not conceal the thresher returns by mere talk.

THE UNION



Is the peer of High Grade Bicycles in the country. It combines with its beauty, a rare degree of both strength and ease, and the exquisite workmanship on the wheel puts it far ahead of all competitors.

Write for New Catalogue.

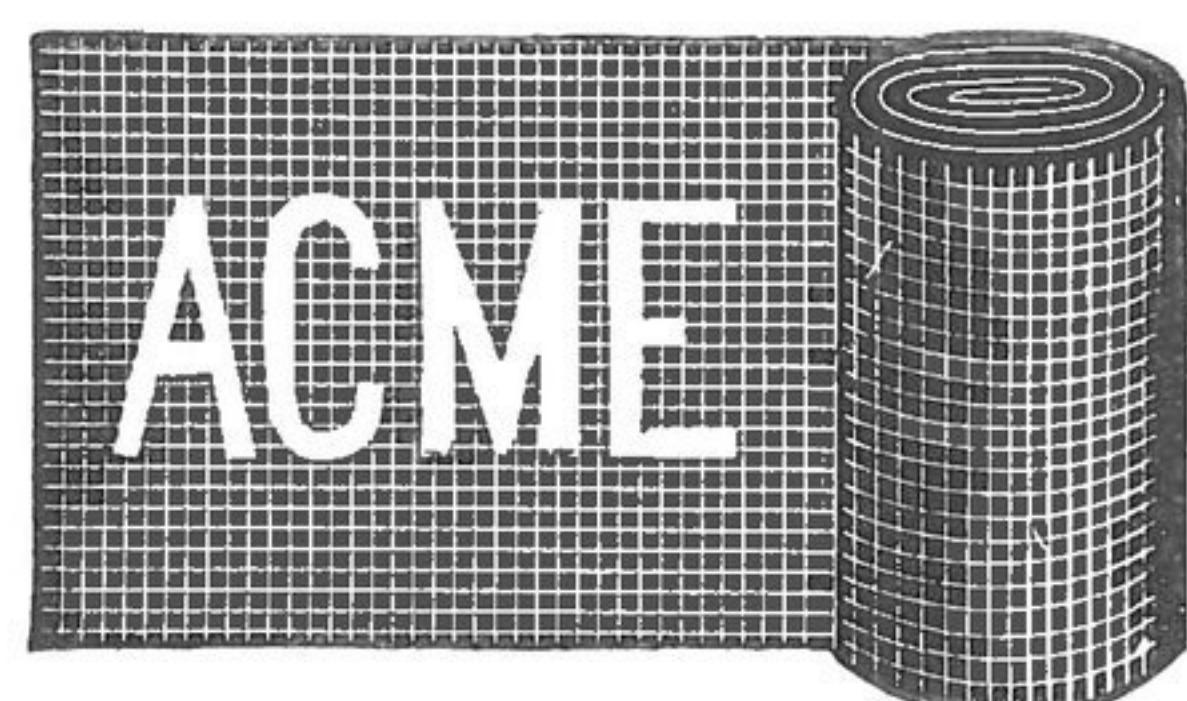
UNION CYCLE MFG. CO., - HIGHLANDVILLE, MASS.

THE BEST AND CHEAPEST CORN AND COB CRUSHER IN THE WORLD.

All wearing parts cast of a steel mixture. Notice difference in construction. Most area where most work is done, where all other crushers have least area where most work is done. Low priced machinery is not the cheapest, considering durability and efficiency. Sent on 30 days' trial when satisfactory reference is furnished.

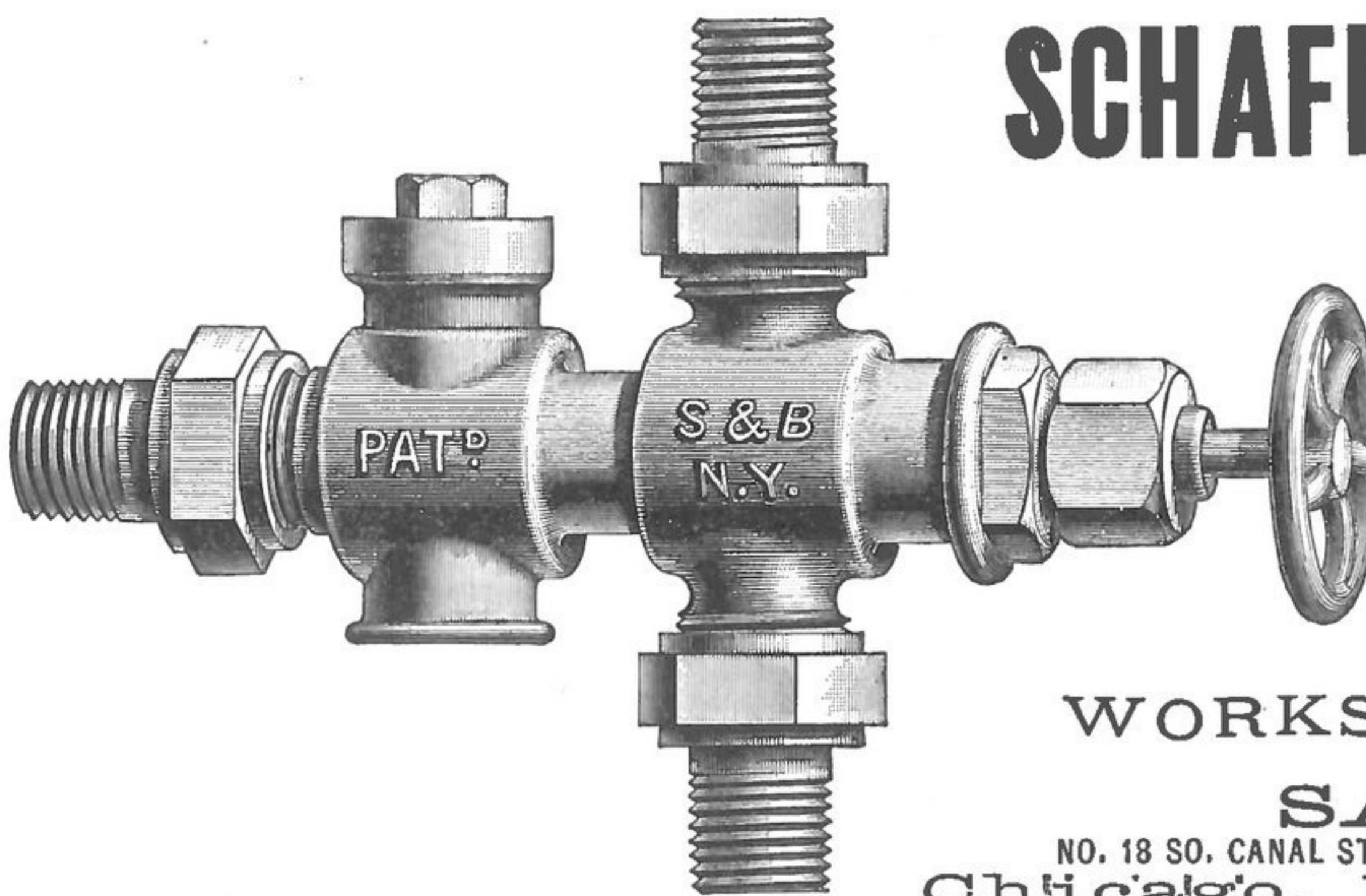
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R. C. McCULLEY, LANCASTER, PENN.



WHEN YOU WANT
WIRE CLOTH
SEND TO
Brooklyn Wire Cloth Works,
107 JOHN STREET, NEW YORK.

WHEN WRITING TO ADVERTISERS
PLEASE MENTION
“THE MILLING WORLD.”



SCHAFFER & BUDENBERG,

—MANUFACTURERS OF—

Pressure Gauges for all Purposes
ENGINE COUNTERS AND REGISTERS.
IMPROVED RESTARTING INJECTORS
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PYROMETER AND THERMOMETER, STEAM TRAPS, REDUCING VALVES, AND ENGINE AND BOILER APPLIANCES IN GENERAL.

WORKS AT BROOKLYN, N. Y.

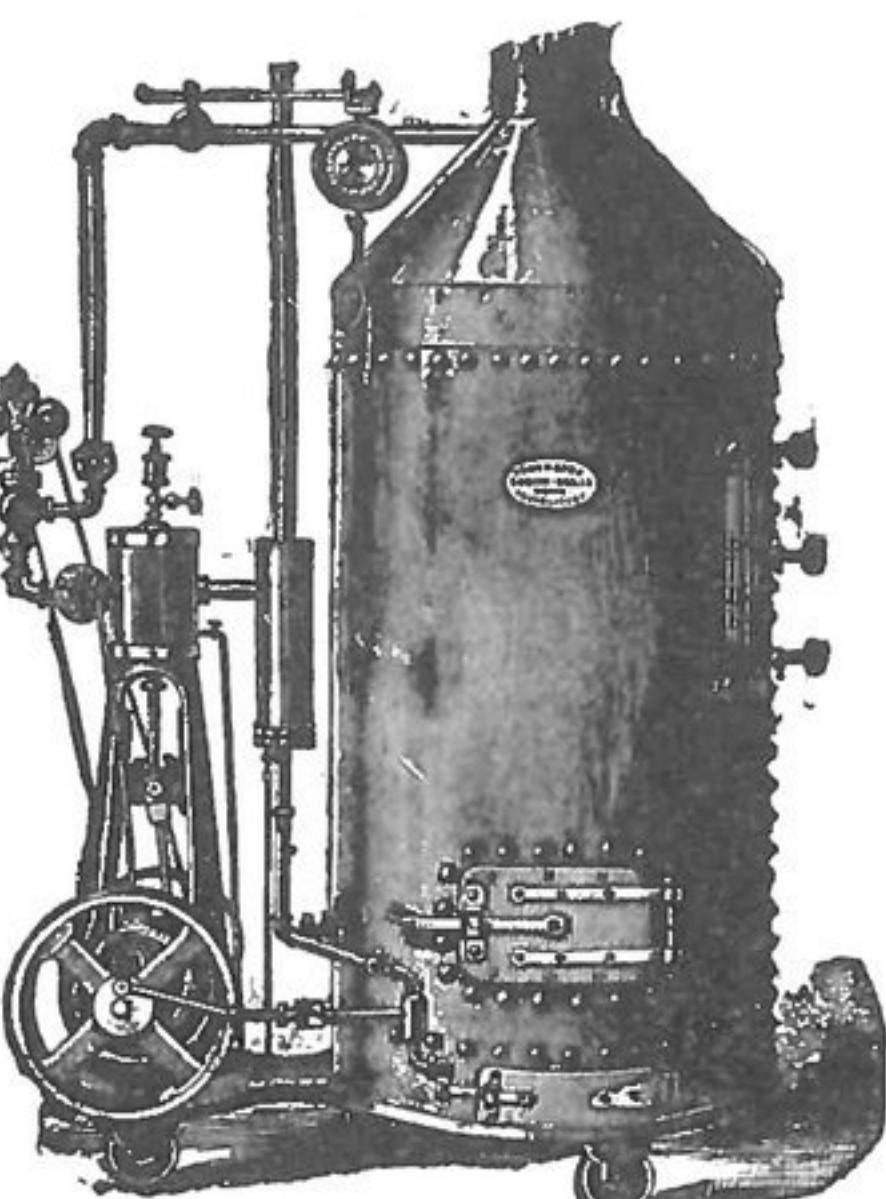
SALESROOMS:

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TONAWANDA ENGINE AND BOILER WORKS

A Large Assortment of Machinery.



The Best 6-Horse Power Semi-Portable Up-right Engine and Boiler Made.

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ARMITAGE, HERSCHELL & CO.

Tonawanda N. Y.

Sometimes Corrugated Iron is represented to be "just as good as" our Patent Edge Corrugation. While this is complimentary to our material, unfortunately it does not work out well in practice. The only Corrugated Iron that can be recommended for roofing is manufactured by

The Cincinnati Corrugating Co.
PIQUA, OHIO.



J. Fowler's grist-mill, Dothen, Ala., burned.

J. Woolford's flour-mill, Monie, Md., burned; loss \$3,000.

Richmond & Smith, millers, Canandaigua, N. Y., dissolved.

The Texas & Pacific Railway will build a grain elevator at Alexandria, La.

Mead Bros.' flour-mill, North Jackson, O., was wrecked by a boiler explosion.

F. Oswald's grain elevator, Alhambra, Ill., burned; loss \$2,000; insurance \$1,400.

McCrocklin & Co., Taylorsville, Ky., want rolls and a corn-mill to add to their plant.

The Clarke & Whitney grist-mill, Oxford, Me., burned; loss \$3,000; insurance \$2,500.

J. M. Adom, Weldon, La., is putting up a 10-horse-power engine and boiler and grist-mill.

The Romney, W. Va., Mfg., Land & Improvement Co. will build a roller flouring-mill; machinery is wanted.

A. J. & W. S. Farror, 4 miles north of Shiloh, La., are putting up a 15-horse-power engine and boiler and grist-mill.

Bedilion & Co., Elm Grove, W. Va., have bought the flour-mill at Pleasant Valley and will move it to Elm Grove.

R. H. Wright, of Lynchburg, Va., and others will build a flour and corn-meal mill at Durham, N. C. Machinery is wanted.

J. D. Shultz and others, Buchanan, Va., have organized the Buchanan Milling & Power Co., capital stock \$60,000. They have bought the flour-mill of M. R. Rogers and will enlarge it and remodel to rolls with 50-barrel capacity.

F. A. Trammell & Sons and others, Opelika, Ala., have formed a stock company, capital stock \$25,000, to build a 25-barrel roller flouring-mill; machinery is wanted.

The "abandoned farms of New England" have been sung in verse, recounted in newspapers, declaimed about on the stump, and been made the theme of authors, lecturers and poets. Now a matter-of-fact collector of statistics presents official figures which show that Maine had 318,577 more acres under cultivation in 1888 than in 1870; New Hampshire 139,690 more; Vermont 58,271 more; Massachusetts 200,998 more; and Rhode Island 27,750 more.

An Iowa farmer says: "Most of our grievances are imaginary. Were any of you alive in 1842? I lived in eastern Iowa, a Territory at that time, and hauled shelled corn from Morning Sun to Burlington, 28 miles, and sold it at 6 $\frac{3}{4}$ cents a bushel. The very corn was shelled by hand in a wash-tub. We dressed our own pork and hauled it to the same town for 1 $\frac{1}{2}$ cents per pound; and we made our own clothing, lived on pork, corn-bread and rye coffee, went without shoes, and were very happy."

The Michigan State Millers' Association held the midsummer convention at the Hotel Downey, Lansing, on July 22 and 23. About 30 firms were represented. Secretary Reynolds' report was a most interesting one. The session was devoted to the discussion of the uses and abuses of credit, and the decision was unanimous that cash or 30-day time is inevitable. Secretary Reynolds tendered his resignation, having entered other business. The members induced him to reconsider his determination to resign. Among those who addressed the convention were Homer Baldwin, of Youngstown, O., and W. C. Brown, of Fostoria, O.

A North Dakota paper, the Jamestown Alert, says: North Dakota has the cheap coal for fuel and the best hard wheat in the world for flour, both at the doors of every mill. North Dakota mills are already running day and night and shipping flour to Liverpool, New York, New Orleans, Portland—to all markets of the world. The business is hardly in its infancy. Yet according to the last report there are 12 mills in the State of

over 200 barrels a day capacity, the value of whose annual product is nearly \$2,000,000, and 23 mills under 200 barrels capacity whose annual output amounts to \$1,000,000. As yet the capital employed in this manufacturing industry is small, but the inducements for its profitable increase will grow stronger each year.

The Washington, D. C., Post of July 29 says: Representative Baker, of New York; Mark J. Bunnell, chief of the military division of the Third Auditor's Office, Treasury Department, and W. W. Robacher, of Rochester, N. Y., have secured the control by purchase of Virginian Island, situated in the Shenandoah River at its confluence with the Potomac at Harper's Ferry. The island is 13 acres in extent and is improved by 17 buildings, one of them a large four-story flouring-mill, newly fitted throughout with the latest roller-process machinery, and capable of manufacturing 300 barrels of flour daily. Four large turbine wheels are run by the unlimited water-power of the Shenandoah. The Baltimore and Ohio Railroad crosses the island, and in addition to the main track there is a switch 700 feet long running into the mill. A stock company with a capital of \$100,000 will be immediately formed, and the location of additional manufactories will be encouraged. The value of the plant as it now stands is \$155,000.

Brushart & Dodge's flour-mill, Portsmouth, O., was damaged by fire.

A Minneapolis dispatch of July 29 says: The Pillsbury English syndicate which last fall bought the big Pillsbury and W. D. Washburn flouring-mills in this city, with a daily capacity of about 15,000 barrels, has failed in its efforts to secure the mills belonging to the C. C. Washburn heirs, 8,000 barrels daily capacity, and last night a lease for an additional five years was signed with Washburn, Crosby & Co., who have for a number of years been operating these mills. The lease was signed by the president of each company, shortly after which an injunction restraining them from executing the lease was served on them, but too late. Frank E. Holmes, a director of the C. C. Washburn Company, who is opposed to renewing the lease, claims that Washburn, Crosby & Co. got out the injunction, and claims that the signatures of the presidents are not enough to bind the lease. The case will come up in court Thursday. The Englishmen were anxious to secure the lease, and Holmes was friendly to them.

BOOKS AND PAMPHLETS.

That able magazine for the home, *Good Housekeeping*, has given some attention of late to co-operation in the matter of dining and other topics connected with its special field; and the issue for August 2 has an interesting paper on some phases of the idea. Then the series on "The Head, Hands and Feet" has reached the hands, and is well worth the attention of those who like to have the "human form divine" kept neat and presentable. There is a variety of other attractive features, for this admirable journal never languishes during hot weather. Clark W. Bryan & Co., Springfield, Mass.

A NEW METHOD OF TREATING DISEASE.

HOSPITAL REMEDIES.

What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians, celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, has ruined more stomachs than alcohol. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.



W.A.BINGHAM,
MANUFACTURER OF
FLOUR SACKS.

178 Duane Street,

New York

MILLERS' FLOUR SACKS A SPECIALTY.



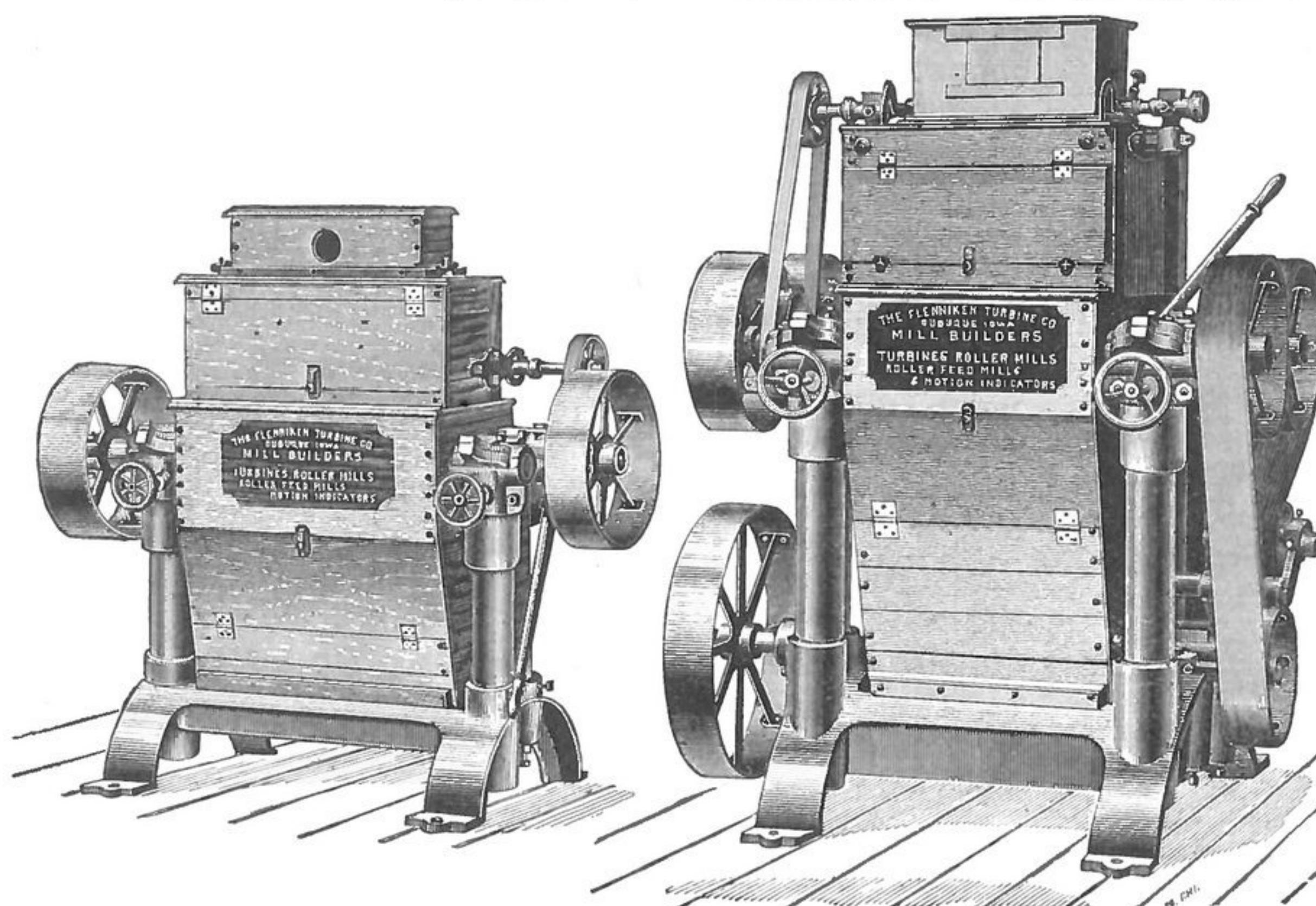
THE PATRONAGE of the MILLING TRADE is MOST RESPECTFULLY SOLICITED.

ONE REDUCTION TO THE FRONT!

*Ye jolly millers, one and all,
Who granulate with burrs,*

A Moses has Come to Deliver You from Egypt. Cease Trying to Make Bricks without Straw. The Red Sea of Expense Has Been Divided.

The Wilderness of Reductions has Been Shortened. There is Manna in Abundance for Those Who Believe. Listen to the Glad Tidings of Great Joy!



ONE REDUCTION ON ROLLS IS A SUCCESS! Two years of experience in a dozen States, with all kinds of Wheat and diversified climates, has justified us in recommending its adoption in place of burrs in each and every case, whether for grinding Wheat, Rye or Buckwheat. We have perfected Roller Mills, Bolts and Scalpers peculiarly adapted to the wants of Small Mills, and all our machines *infringe no patents*, and no claims are made that they do.

Having consummated a bargain with **MR. O. C. RITTER**, the author and patentee of **One Reduction**, which gives us the *exclusive right* to construct mills under his patents, our patrons in the future will receive a license from Mr. Ritter.

SPECIALTIES! { Graham Roller Mills, Round Reels and Scalpers, Sectional Round Reels, Grain Separators, Motion Indicators. Before buying any of these machines send for our prices and descriptive circulars. } **SPECIALTIES!**
Second-Hand Machinery, and Bargains in Every Line.

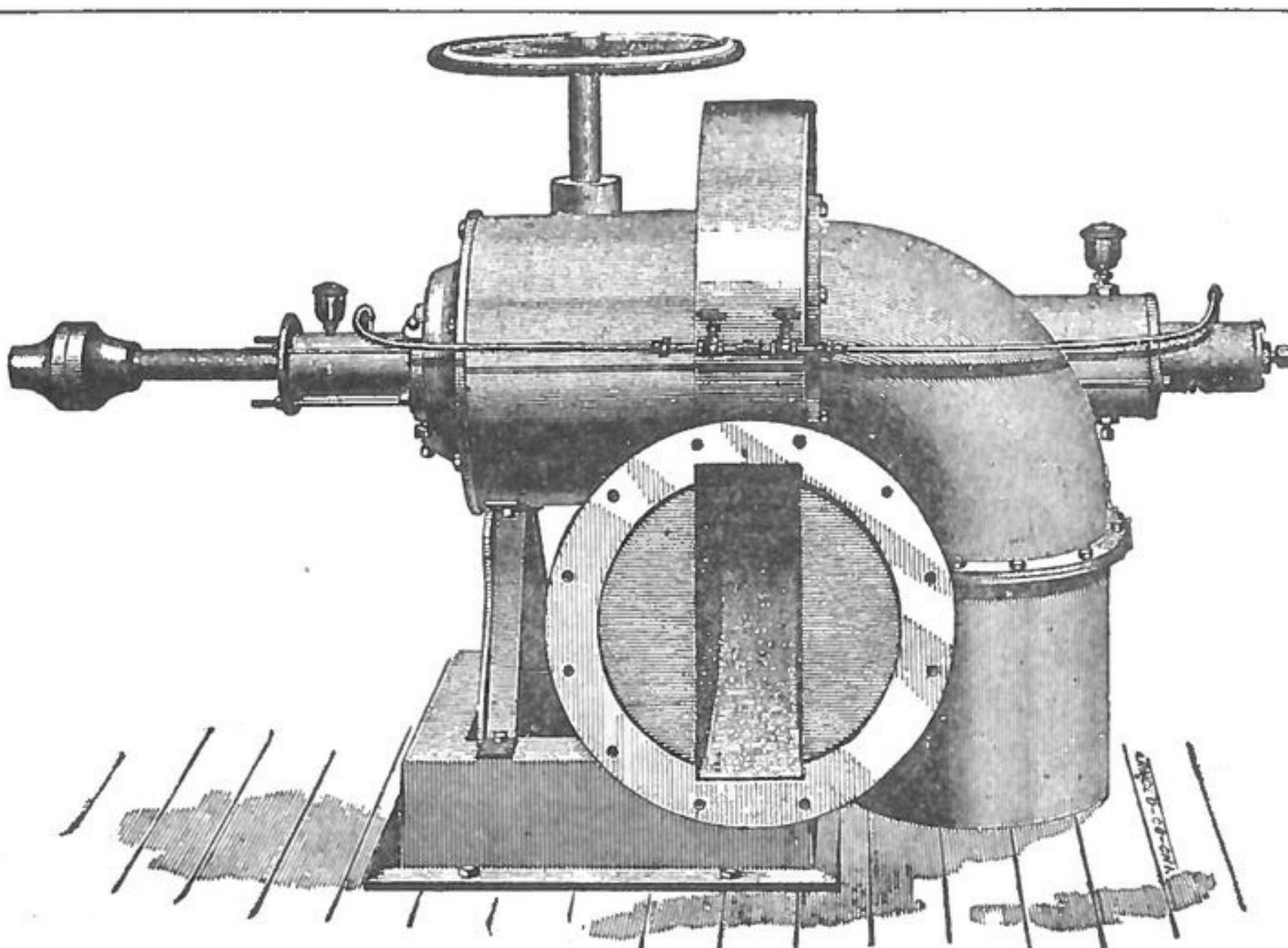
SEND FOR CATALOGUE OF

The Best Turbines!

VERTICAL OR HORIZONTAL,

With or Without Iron Flumes,

—BUILT BY THE—



Flenniken Turbine Co.
DUBUQUE, - IOWA.

EUROPEAN ECHOES.

CROP reports in Russia are decidedly conflicting. The wheat crop of that country will probably be up to the average in quantity, but not in quality.

FRENCH crops have met a serious disaster. A Paris dispatch of July 25 says: The crops throughout the country, except in the section east of the Rhone, have been destroyed by incessant rains. Official reports from the great wheat district of La Beauge state that the crop is rotting. The losses are estimated at \$100,000,000. Dealers in grain discount the scarcity, and the price of bread is rising.

THE London "Miller" publishes the following showings of milling conditions in various British Colonies: In Canada the correspondent writes: "The dominion statute forbids any grinding or work by millers on a Sunday, and we are a strict Sabbath observance tribe. The average wages of stone dressers in cities are \$11 to \$12 per week, in country places \$9 to \$10; rollermen in cities \$13 to \$14, in the country \$10 to \$11; sparesmen in cities \$10 to \$11, and in the country \$8 to \$9 per week. With regard to time, in some heathenish parts 15 hours per day, in more civilized places, 10 hours constitute a day's work. Where mills run through from Monday morning early to Saturday night, 11 hours make the millers' time. I think, to simplify matters, I will call the average time in Canada 12 hours. Rollermen's wages \$11; stone-dressers \$10, and sparesmen \$9. I have come to this conclusion after allowing the majority of millers to be in the country." Another correspondent says: "It is a very unusual thing in Canada to work on Sunday. In the States it is customary to do so." We would like to know this correspondent's warrant for his assertion concerning Sunday labor in the States. The correspondent at Delhi, India, writes: "The pay of millers varies in different parts of India. In Delhi the pay is \$2.88 per month; a rollerman gets \$3.24, a carpenter gets \$7.20, a fitter between \$9 and \$12 per month. In Bombay the rate is a little higher, from \$3.60 to \$4.30 per month for operative millers, living being dearer. A native workman generally lives on \$1.44 a month, and, if saving, can subsist on \$1.08, food and lodging included. A day's work is considered 12 hours. In case of over-time work they are paid, for every hour, half an-hour's work extra. The longest time the men are kept at work in the mill is 16 hours a day. In the case of a mill working 16 hours a day there is only one shift, and the total hours of work in the week, except Sunday, amount to 96 hours, but there being more men kept in a flour-mill of the same capacity in India than is the case at home, the men have more leisure for taking food and rest. The Delhi flour-mills are stopped on Sundays, the men coming in the morning for cleaning up and small repairs, and leaving at 12 noon, thus having a half-holiday. On Mohammedan or Hindoo holidays the mills are obliged to be closed in case of the employees being of either sect." The Bombay correspondent says: "The Bombay flour-mills, they are six in number, varying in capacity from 6 to 20 sacks (280 pounds) per hour, which are the only ones I can speak to from actual experience, are worked entirely by native operators, under the superintendence of European millers. The wage of these natives is of course very low, averaging about \$5.76 per month. The working week consists of 72 hours usually, and Sunday work is not usual, excepting in the small stone mills which are owned by natives. The salaries of European millers vary from \$90 per month upwards. In one or two cases one man combines the duties of miller and engineer, and the remuneration then is of course somewhat higher. You may not be aware that an examination must be passed here before one is eligible to take charge of engines and boilers. On this account mill engineers out here are much better remunerated than in England, as well as occupying a better social position. Most of the mills work night and day, having two 'shifts' of 12 hours each, and it is usual to shut down a few hours earlier on Saturdays for cleaning and repairs. The natives make fairly good workmen so long as they have nothing but

straightforward work, but are quite useless when a contingency arises. They are willing and fairly intelligent as a rule, but have no 'initiative' about them." The South Africa correspondent writes: "It is not usual to work on Sunday, but some small country mills worked by water and wind do. Wages: Roller mill foreman \$17 per week; rollermen \$12.15; purifermen \$7.29; laborers \$5.83; millstone-dressers \$9.72 to \$12.15. Time 61 hours per week."

MILLING PATENTS.

Among the patents granted July 22, 1890, are the following:

Wm. R. Dunlap, Cincinnati, O., No. 432,519, a centrifugal reel, comprising the combination of the outer cylinder, the inner cylinder having closed ends and staves secured upon said inner cylinder, the leading edges of said staves curving inward and their opposite edges curving around the beater-shafts, and the adjustable blades mounted upon shafts around said inner cylinder.

Jos. A. Beamisderfer, Belle Grove, Pa., No. 432,592, a device for dressing or cutting millstones, comprising the combination, with a stationary frame, a reciprocating frame mounted thereon, and a vertical pick carrying frame mounted on the reciprocating frame, of spring-arms secured to the upright and reciprocating frames, the lower bent portions of said arms engaging the under side of the stationary frame and serving as guides for the reciprocating frame, in connection with the clamps for securing the reciprocating to the stationary frame.

R. L. Hottel, Cedarville, Cal., No. 432,876, a middlings-purifier, comprising the combination, with the casing having a transverse hopper across one end, a transverse conveyer across its opposite end, and a shaker or bolt upon which said hopper discharges, of the V-shape imperforate channels or chambers extending from the inner well of the hopper to the said conveyer and abutting at their lower inner longitudinal edges to form the central V-shape dust-settling chamber, the opposite longitudinal edges of the channels engaging the side walls of the casing and forming dust-settling chambers parallel with chamber, valved openings along the apexes of the channels and longitudinal conveyers in the bottoms of the dust-settling chambers and delivering to the transverse conveyer, and the suction-blower above said channels or chambers.

Among those granted July 29, 1890, are the following:

Registered trade-mark No. 18,246.—FLOUR.—George K. Hubbard & Co., Philadelphia, Pa. Application filed June 3, 1890. Used since May 1, 1890. The word "ARIEL."

Jos. Goeddeke, Detroit, Mich., No. 432,998, a malt scouring machine.

Daniel G. Reitz, Berlin, Pa., No. 433,034, a middlings-purifier.

Peter Sadravezt, San Antonio, Tex., No. 433,096, a flour-separator.

Rudolf A. Baumgartner, Rosenheim, Bavaria, Germany, No. 433,160, a machine for cleaning barley.

Peter B. Sprenkle, York, Pa., No. 433,188, a scalping-reel and flour-bolt.

Noble G. Ross, Center, Mo., No. 433,422, a grain-scale.

CATARRH.

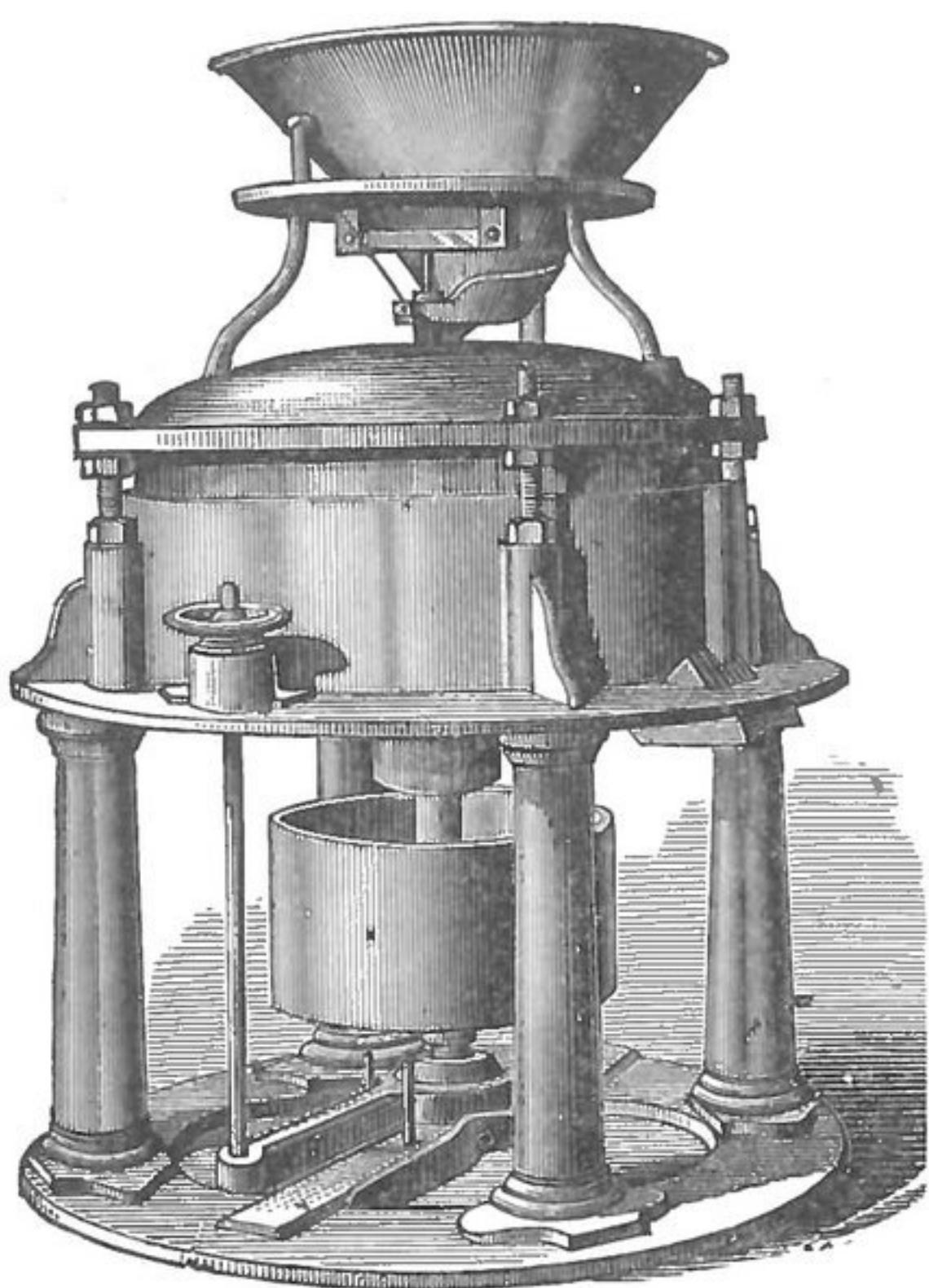
CATARRHAL DEAFNESS—HAY FEVER.

A NEW HOME TREATMENT.

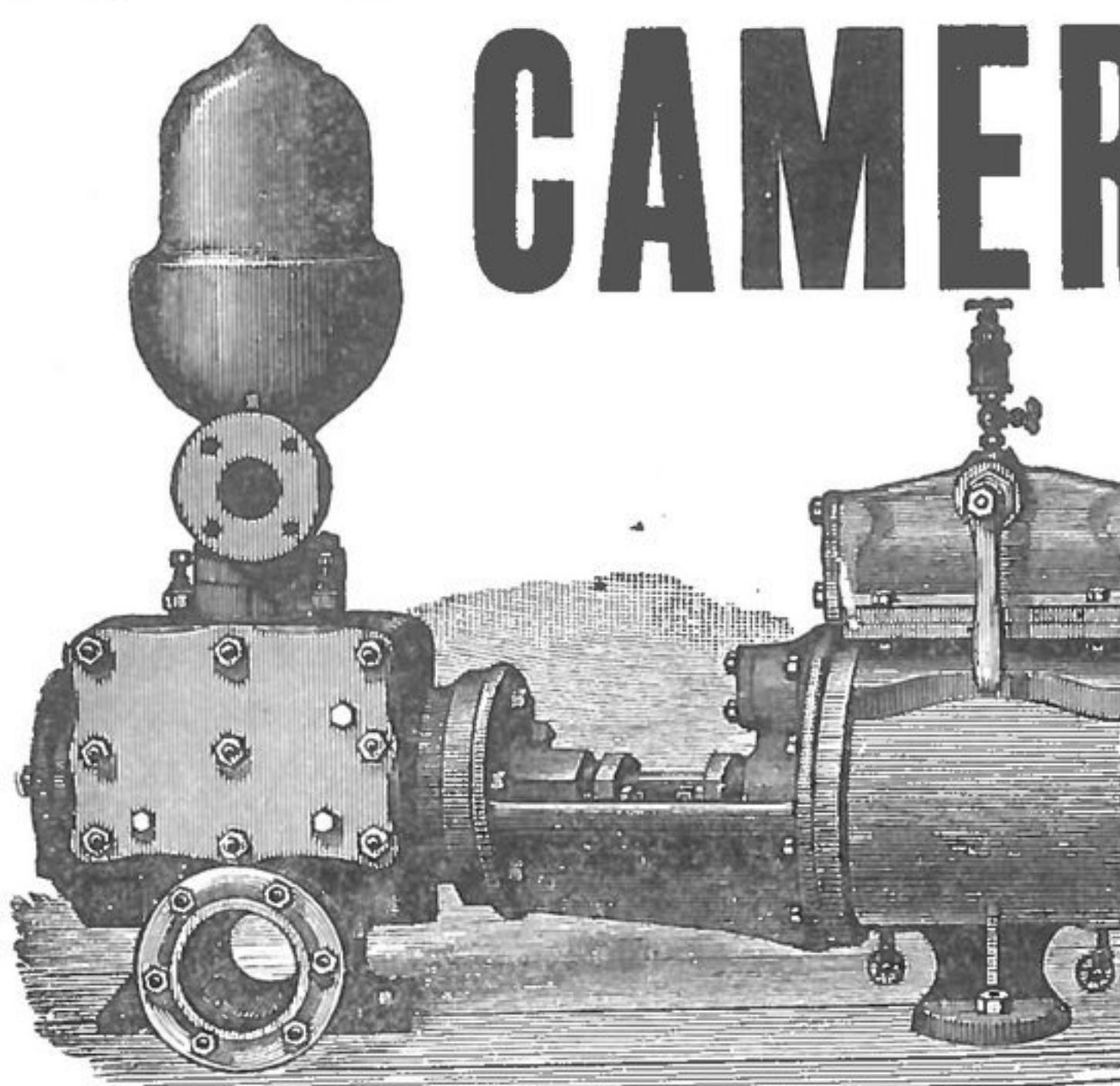
Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—*Christian Advocate.*

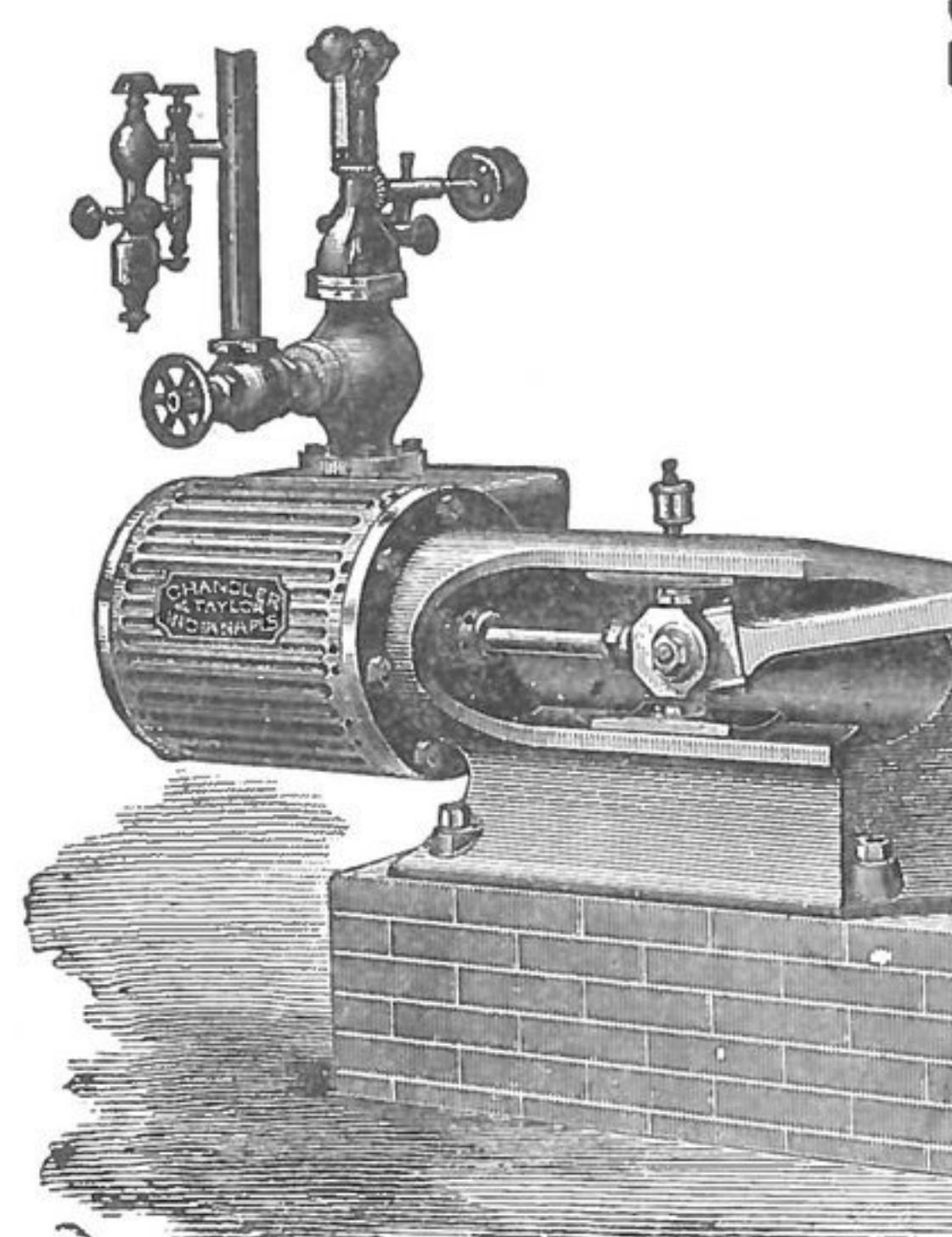
Sufferers from Catarrhal troubles should carefully read the above.



MUNSON BROS., UTICA, N. Y.,
—MANUFACTURERS OF—
PORTABLE MILLS
FOR CORN AND FEED GRINDING,
—WITH—
FRENCH BUHR and ESOPUS STONES
Shafting, Pulleys, Hangers, Etc., and General
Mill Furnishings.
SEND FOR CATALOGUE AND PRICE LIST.



CAMERON STEAM PUMP
THE STANDARD OF EXCELLENCE.
SIMPLE! COMPACT! DURABLE!
"NO OUTSIDE VALVE GEAR."
Steam, Air & Vacuum Pumps in Every Variety
FOR ILLUSTRATED CATALOGUE ADDRESS
THE A.S. CAMERON STEAM PUMP WORKS
Foot of East 23d Street. .. New York.



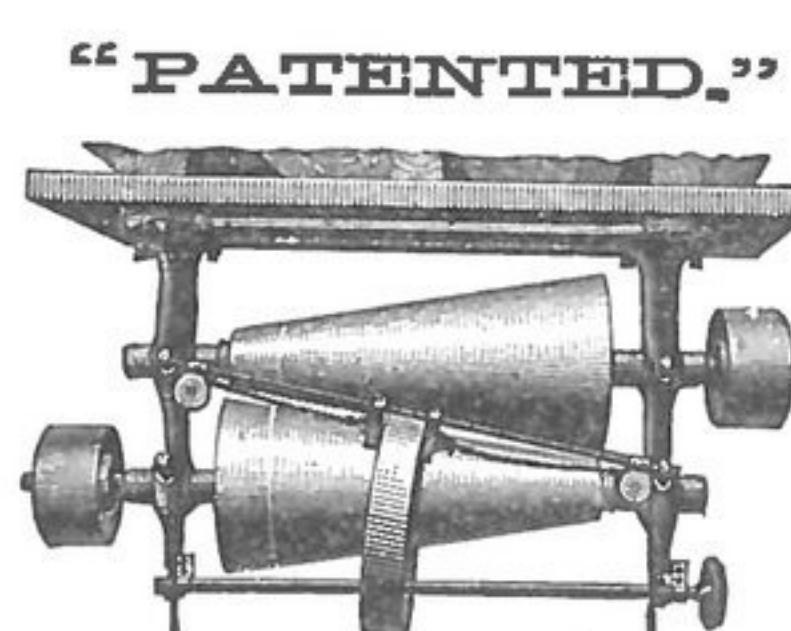
SELF-CONTAINED STEAM ENGINES
Stationary or
Semi-Portable.

High Standard Maintained.
Prices Greatly Reduced.

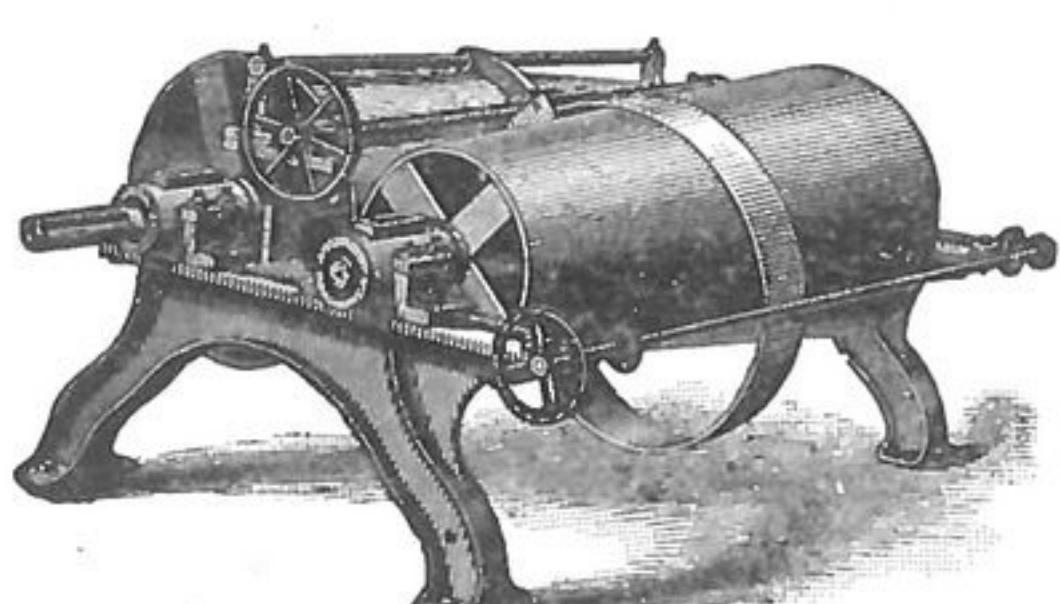
WRITE FOR NEW ILLUSTRATED
CATALOGUE NO. 32.

Chandler & Taylor Co.
Indianapolis, Ind.
Engines, Saw-Mills and Drain Tile
Machinery a Specialty.

THE EVANS FRICTION CONE & FRICTIONAL GEARING



"PATENTED."
This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is fluctuating. All sizes made from $\frac{1}{2}$ Horse Power to 50 Horse Power. SEND FOR ILLUSTRATED CATALOGUE.



EVANS FRICTION CONE CO., 85 Water St., BOSTON.



August 4, 1890.

Grain & Flour Trade

OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., August 2, 1890.

Friday of last week was a day of active, higher and excited markets, on bull and bear buying at the opening, with a later reaction on lack of foreign demand and on realizing. In New York July wheat closed at 99c., with Atlantic port receipts 124,631, export 208,316, and options 9,750,000 bushels. July corn closed at 46½c., with receipts 189,654, exports 28,100, and options 3,000,000 bushels. July oats closed at 40c., with receipts 62,734, exports 16,642, and options 245,000 bushels. Wheat flour ruled stronger and 10@15c. higher on advanced millers' limits. Receipts included 16,209 sacks and 27,183 barrels, and exports 1,500 sacks and 2,328 barrels. The minor lines were featureless.

Saturday brought a heavy advance in corn and a sympathetic rise all along the line, on hot, dry weather, heavy long and short buying and better cables. July wheat closed at 99c., with receipts 197,610, exports 40,080, and options 3,000,000 bushels. July corn closed at 48½c., with receipts 172,775, exports 27,544, and options 1,800,000 bushels. July oats closed at 40c., with receipts 59,020, exports 750, and options 50,000 bushels. Wheat flour was strong and generally unchanged, with receipts 7,811 sacks and 19,952 barrels, and exports 5,978 sacks and 14,384 barrels. The minor lines were firm.

Monday brought a panic among the shorts to cover and a craze among the bulls to buy, with consequent active, higher and generally excited markets on bad reports of weather and threatened short crops. That the situation looked really bad is proved by the action of the bears in New York, who went wild. July wheat sold up to \$1.00%, and closed at 99½c., with receipts 167,419, exports 150,761, and options 9,400,000 bushels. Liverpool cables were 2c. higher, but, singularly, the Paris flour market was lower 1@2c. July corn opened and ruled at 52½c., a clean jump of nearly 4c. over Saturday's closing. Receipts were 286,072, exports 186,600, and options 4,816,000 bushels. The Argentine Republic troubles aided the strength in corn. July oats closed at 40c., with receipts 134,270, exports 22,081, and options 185,000 bushels. Wheat flour was stronger and higher on all grades with wheat, and the advance checked trade. Prices were 10@20c. above exporters' limits. Receipts were 6,665 sacks and 73,435 barrels, and exports 2,422 sacks and 3,022 barrels. The minor lines were firm and strong. The visible supply in the United States and Canada was:

	1890.	1889.	1888.
July 26.	July 27.	July 28.	
Wheat	18,392,318	12,134,879	22,190,867
Corn.....	12,020,700	7,153,060	8,374,050
Oats.....	2,628,671	4,252,763	2,689,830
Rye	506,384	812,904	144,196
Barley	388,886	371,345	144,196

Tuesday brought finer weather reports both at home and abroad, and the bulls went realizing on everything, making the markets active, irregular and weaker generally. July wheat closed at 99½c., with receipts 190,479, exports 68,679, and options 7,712,000 bushels. The amount of wheat on passage increased 160,000 bushels. North Dakota reported some damage by hot winds, but a prospect of a better wheat crop than that of 1889. July corn closed at 51½c., with receipts 575,814, exports 110,437, and options 3,256,000 bushels. The amount on passage increased 172,000 bushels. July oats closed at 39½c., with receipts 59,280, exports 10,694, and options 400,000 bushels. Wheat flour was practically nominal for all shipping grades, with receipts 14,047 sacks and 31,750 barrels, and exports 19,099 sacks and 2,611 barrels. The minor lines were featureless.

Wednesday was a day of less active, more irregular and generally weaker markets. July wheat closed at 96½c., with receipts 161,730, exports 197,027, and options 4,368,000 bushels. Heavy rains were reported in North Dakota and northern Minnesota. July corn closed at 51½c., with receipts 169,642, exports 283,502, and options 2,368,000 bushels. July oats closed at 39½c., with receipts 35,590, exports 18,397, and options 304,000 bushels. Rye grain was dull at the following figures: Western 59@61c. delivered; State 59½@61c.; Canada 59@60c. in full loads; car lots on track 56@69c. Dealers showed samples of the new crop California Chevalier and Bay Brewing barley, weighing respectively 54 and 47 pounds to the bushel, and of fine color, but there were no offers, as the prices and freight were held above any reasonable figure. Malt was in fair request and steady at old prices. Quotations: 80c. for country Canada; 85@90c. for city do. Mill-feed was steady and in fair demand for 40-lbs., which sold at 75c. by one mill. Other kinds the same except 100-lbs. and sharps at 85c.

Wheat flour was dull and practically nominal. Receipts were 6,561 sacks and 25,381 barrels, and exports 18,157 sacks and 5,577 barrels. Sales were made at the following rates: \$3.75@3.90 for No. 1 springs in sacks for standard export grades, and \$4.00@4.25 for bakers' extras in sacks, \$4.25@4.65 in bbls., \$4.10@4.25 for rye mixtures, \$4.75@5.00 for straight springs, \$5.00 @5.60 for patent do, \$5.00@5.50 for patent winters, \$4.75@5.00 for straight do, \$4.40@4.75 for clear do, \$4.10@4.40 for No. 1 do, \$3.30@3.60 for No. 2 do in sacks and bbls., \$2.90@3.25 for superfine do, \$2.35@2.70 for fine do, \$4.65@4.72 for city mills for West Indies, \$5.15@5.50 for patent do. Southern quotations same range as Western winters. These quotations were the asking prices of stuff to arrive, while the small offerings on the spot were undesirable flours, and 10@20c. less might buy them. Winter straights in car lots sold at \$5.00 for fancy to \$4.75 for fair; city mills West Indies \$4.60@4.75 in lots as to grades; rye mixtures \$4.30; winter straights \$4.85; spring patents \$5.00@5.60 in lots; sacks No. 1 winter \$4.00. The sales were all small and insignificant, both in detail and total; straight winters \$4.80@4.90.

Corn products were slow at the following quotations: Brandywine \$3.00; Southern and Western \$2.75@2.90; coarse bag meal 98c.; fine yellow \$1.07; fine white \$1.12 for city; Southern do 95c.@\$1.45 for the whole range in bags; yellow granulated \$3.20; white do \$3.40; \$3.30@3.45 for flour in barrels. Rye flour was steady and in fair demand at \$3.15@3.40.

Thursday brought a further decline in cereals. One Cincinnati report "estimated" a "deficiency" of 365,000,000 bushels in the present wheat crop, which was doubtless a mistake in the telegraph figures. August wheat closed at 95½c., with receipts 106,000, exports 154,000, and options 4,088,000 bushels. August corn closed at 52½c., with receipts 201,000, exports 152,000, and options 1,800,000 bushels. August oats closed at 38½c., with receipts 27,000, spot sales 71,000, and options 380,000 bushels.

Wheat flour was dull and steady, with receipts 14,000, and sales 17,000 packages. Sales were made at the following figures: Low extras \$2.75@3.35; city mills \$4.60@4.83; city mill patents \$5.00@5.40; winter wheat low grades \$2.75 @3.35; fair to fancy \$3.45@5.00; patents \$4.70 @5.40; Minnesota clear \$4.00@4.65; straight \$4.10@5.15; Minnesota straight patents \$4.65@5.65; rye mixtures \$3.85@4.45; superfine \$2.25 @3.00. The minor lines were steady.

BUFFALO MARKETS.

WHEAT—Sales were made of No. 1 hard at \$1.02½ for 6,000 bushels, \$1.01½ for 2,500 bushels, \$1.01 for 900 bushels, and 99c. for 2,000 bushels. No. 2 Northern, Hard wheat closed at \$1.00@1.01. Old No. 2 red sold at 95c., and later 94c. was asked; extra No. 3 red sold at 90@90½c., and some at 89½c.; No. 2 white was held at 90c. **CORN**—Sales were made of 16,000 bushels No. 2 yellow at 52½c., 16,000 bushels at 52½c., and it closed

at 53c.; No. 3 yellow closed at 52½c.; No. 2 mixed at 51½c., and No. 3 do at 51@51½c. **OATS**—Old No 2 white sold at 42c. and new do at 39½c.; new No 3 white sold at 38½c.; No. 2 mixed sold at 38½@39c. **RYE**—The market is entirely nominal at 55@56c. for No. 2. **OATMEAL**—Akron, \$4.95; Western, \$4.95 per bbl; rolled oats, in cases, 72 lbs, \$3 10 **CORNMEAL**—Coarse, 95c.@\$1.00; fine, \$1.00@1.05; granulated \$1.50 per cwt. **MILL-FEED**—City-ground coarse winter, \$14.00@14.50 per ton; fine do. \$14.00@15.00; finished winter middlings, \$15.00@16.00; coarse spring do, \$15.00

FLOUR MARKET.

Spring Wheat.	Winter Wheat.
Patents..... \$5.75@6.25	Patents.... \$5.25@6.00
Straight..... 4.75@5.25	Straight... 4.75@5.25
Bakers..... 4.25@5.00	Clear 4.25@5.00
Red Dog..... 2.00@3.25	Low grades . 3.00@4.50
Rye flour.... 3.50@—	Graham 4.50@—

"WHANG" POETIZES ANEW.

VOLLER.

I who erewhile did sing, or "holler,"
Of Kick, now ditto do of Voller!
Kick's kicking still, tho' "Modern Milling"
I'm sore afraid will prove his killing.
The miller's wise who spends his dollar
And a half upon a Voller.
For ev'ry leaf of "Modern Milling"
To ev'ry dusty's worth a shilling.
Every leaf and page of Voller
Show he's a miller and a scholar!
You wo'n't find in "Modern Milling"
Anything resembling filling.
You seek in vain for any coil or
Jackdaw milling throughout Voller.
There is no better book for filling
Empty heads than "Modern Milling."
Still nothing's said to raise the choler
Of any one at all in Voller!
Who so for the exams is drilling
Will win who masters "Modern Milling."
The masters will grow rich who "feller"—
Forgive the slang—the advice of Voller!
Teachers and pupils—all who're tilling
The intellect—need "Modern Milling."
One need not hesitate to swaller—
Forgive again—what's served by Voller.
Let's hope that he for us is grilling
Something as sweet as "Modern Milling,"
Ah! would I owned that part of Voller
That's bounded by his hat and collar,
But, what's next best, since he's unwilling
To lend his head, is "Modern Milling."

Whang, in London "Millers' Gazette."

Buffalo receipts of flour and grain by lake during the month of July, 1890, in comparison with several preceding years, were as follows:

	Flour, bbls.	All grain, bu.	Flour and grain, bu.
1890.....	683,138	11,761,491	15,006,396
1889.....	587,030	8,653,920	11,592,070
1888.....	710,447	7,767,375	11,319,620
1887.....	586,024	11,339,761	14,269,881
1886.....	566,799	9,719,876	12,554,871
1885.....	422,125	6,415,382	8,576,007

The Buffalo receipts of flour and grain by lake from the opening of navigation to August 1, 1890, in comparison with preceding years, were as follows:

	Flour, bbls.	All grain, bu.	Flour and grain, bu.
1890.....	2,360,228	45,213,059	56,357,111
1889.....	1,739,030	35,411,550	44,107,700
1888.....	1,912,397	28,736,769	38,299,799
1889.....	1,566,647	39,664,244	47,464,476
1886.....	1,905,778	31,358,390	40,888,280

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(Successors to Union Stone Co.)

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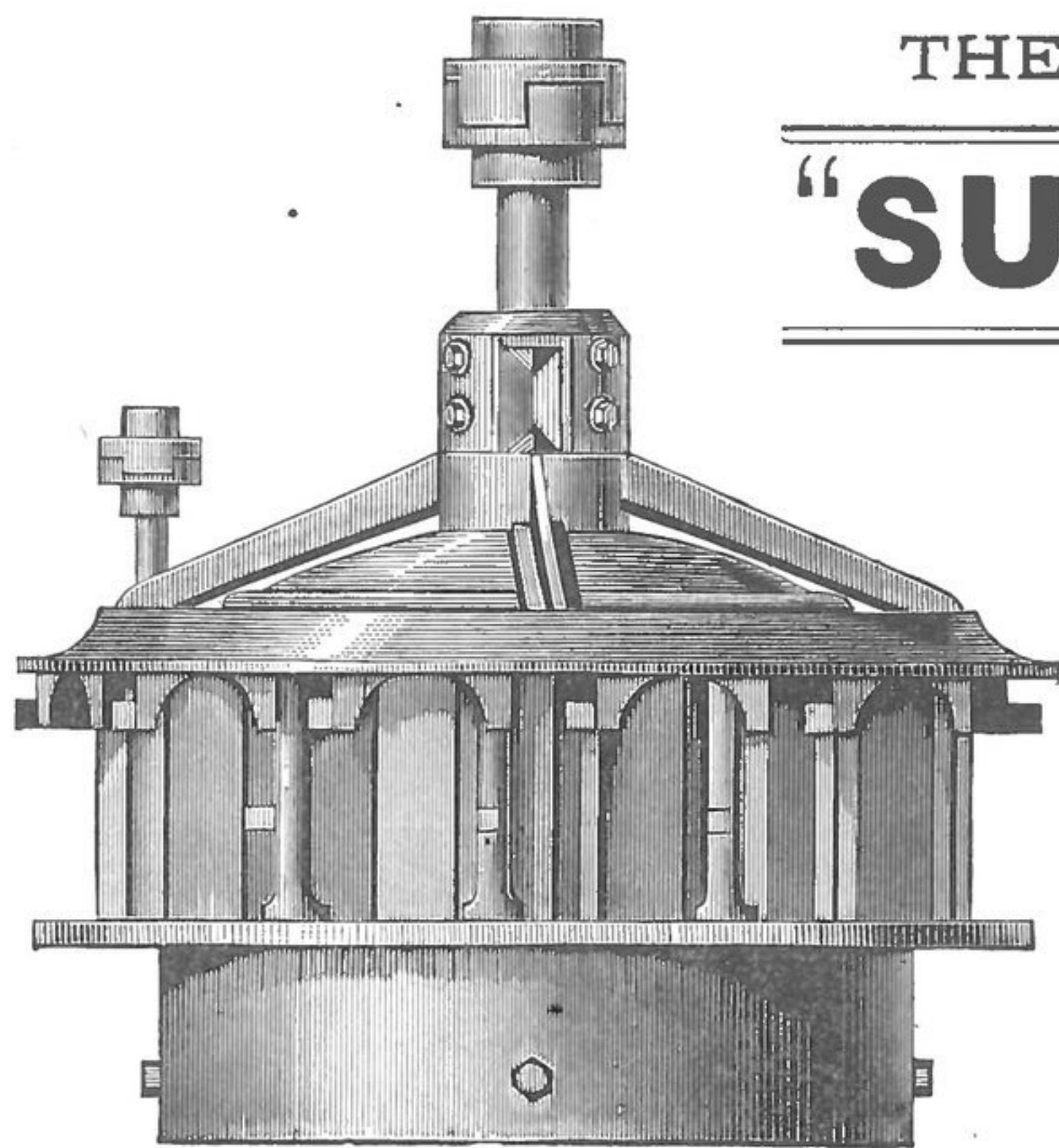
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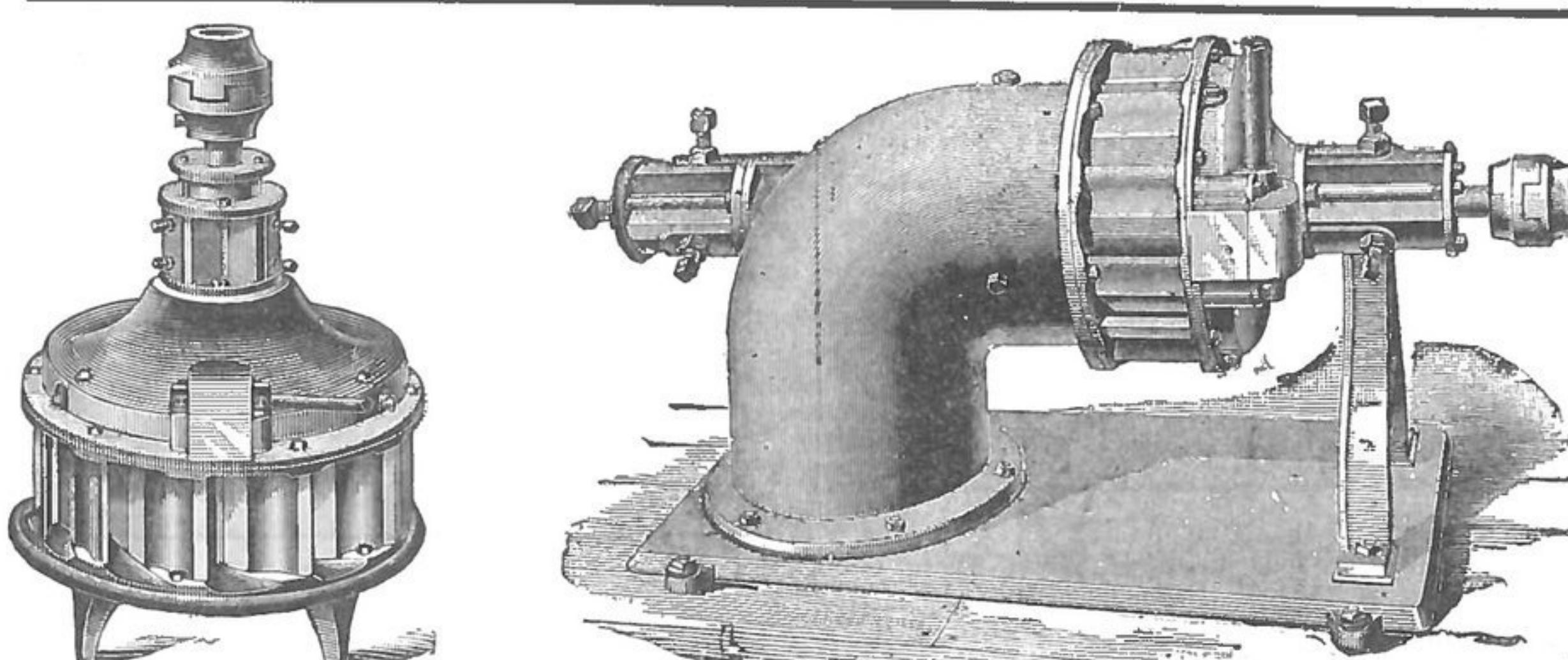
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00..... .91	3..... 1.20	8..... 1.50	13..... 2.16	Sprocket Wheels.
00..... .95	4..... 1.27	9..... 1.60	14..... 2.34	Shafting, Pulleys, Etc.
0..... .98	5..... 1.33	10..... 1.65	15..... 2.58	General Mill Machinery.
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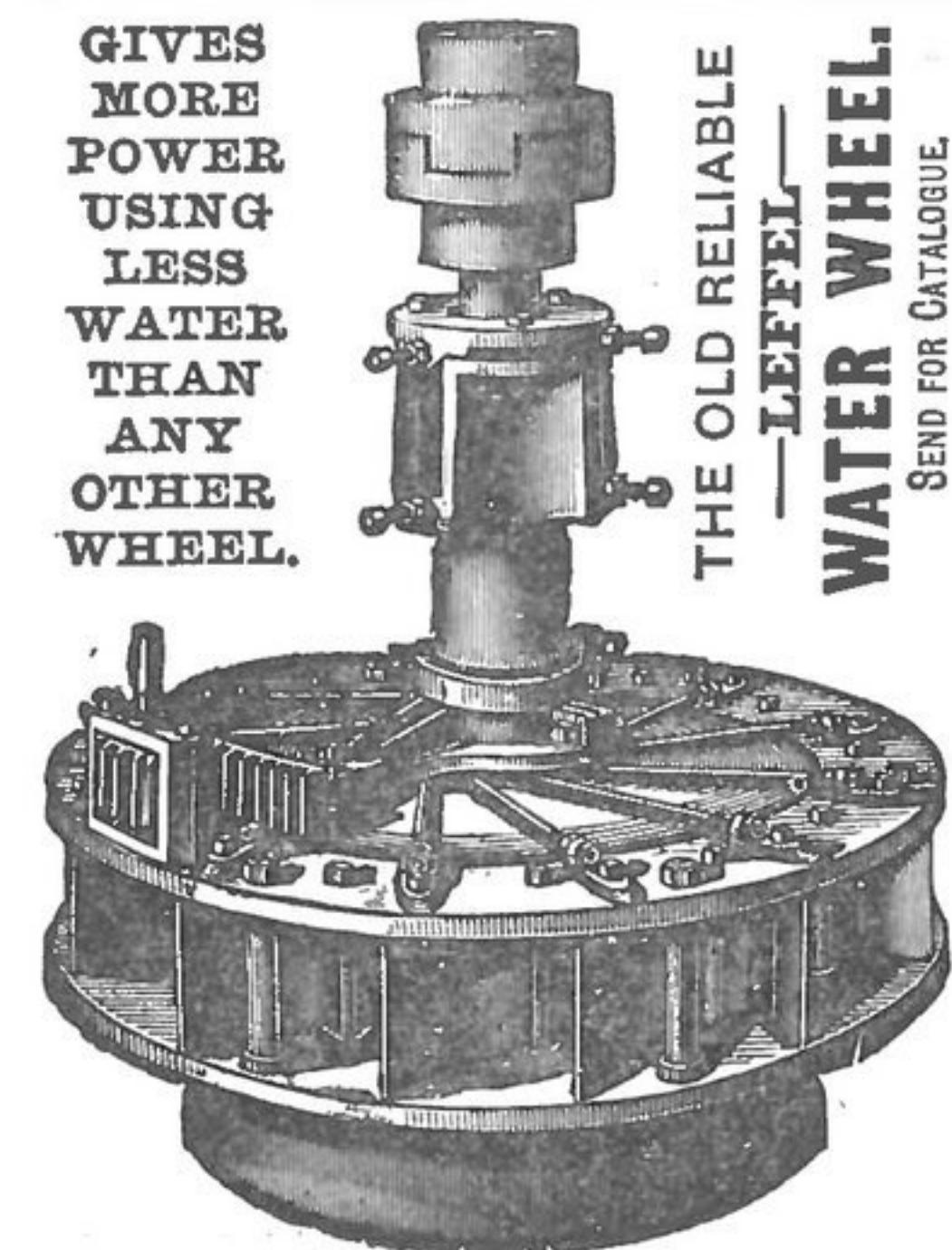


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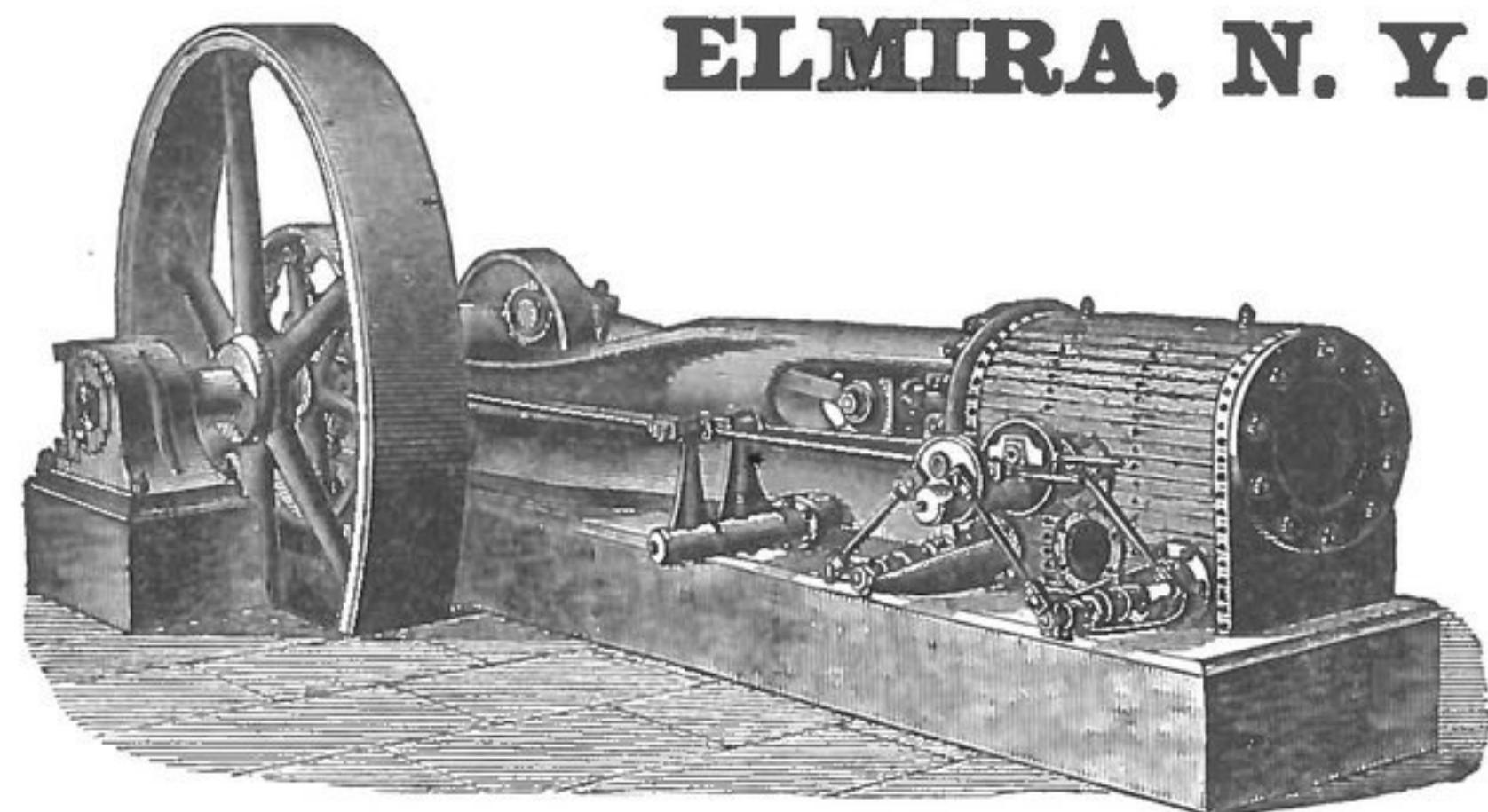
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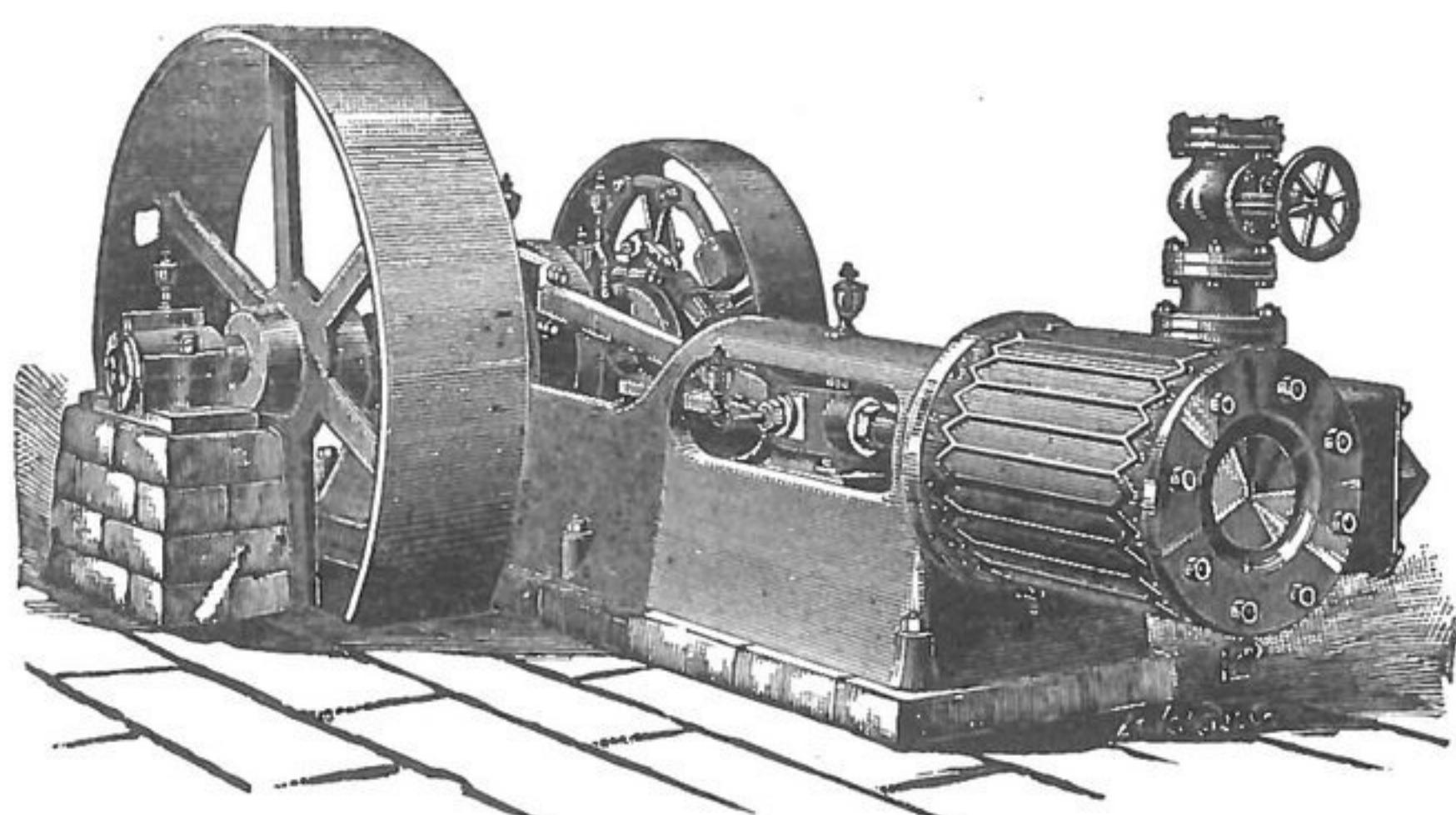
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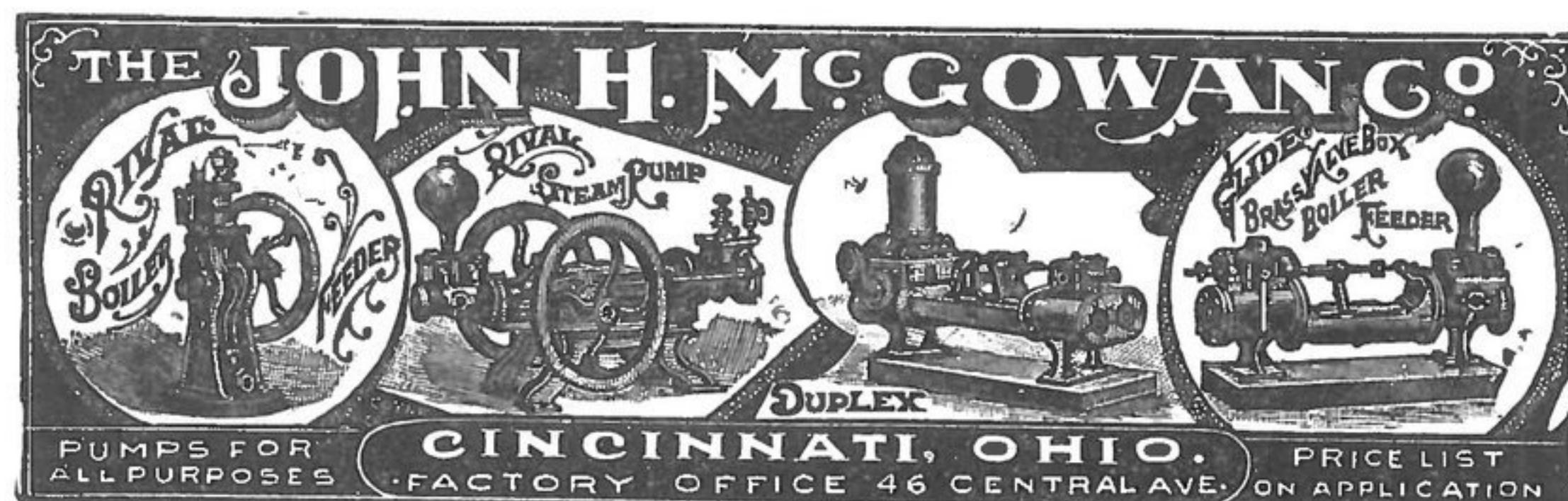
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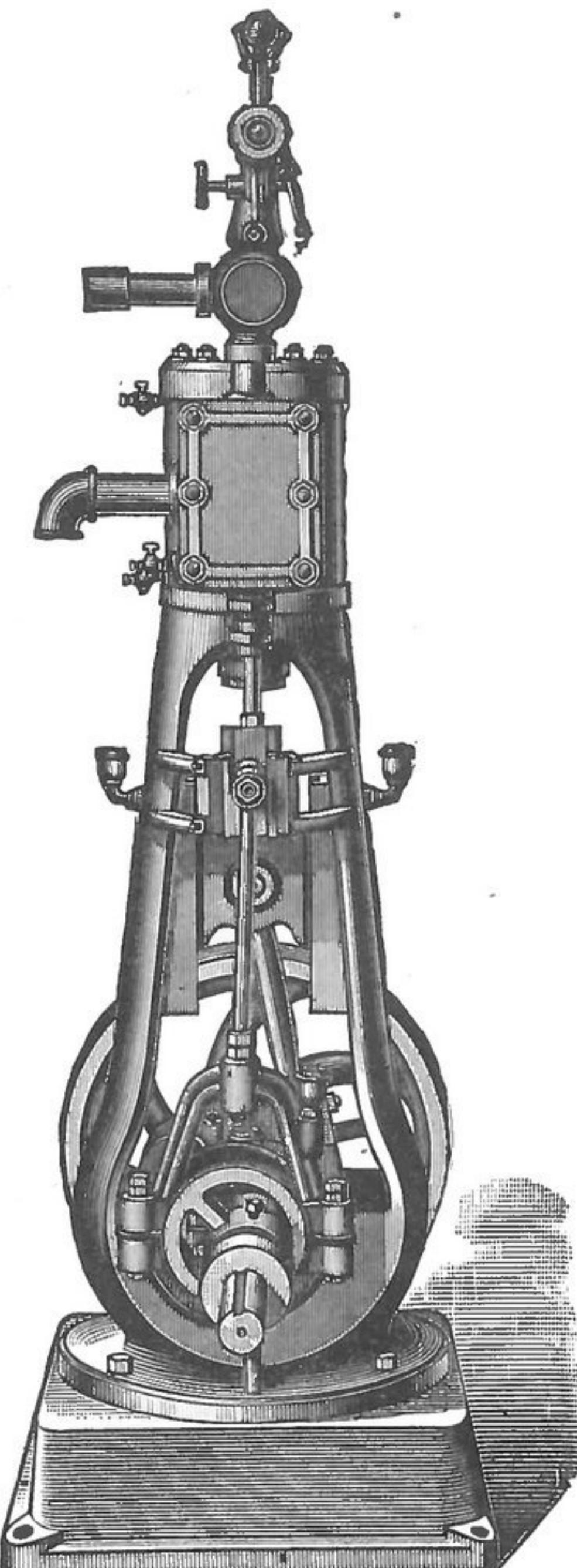
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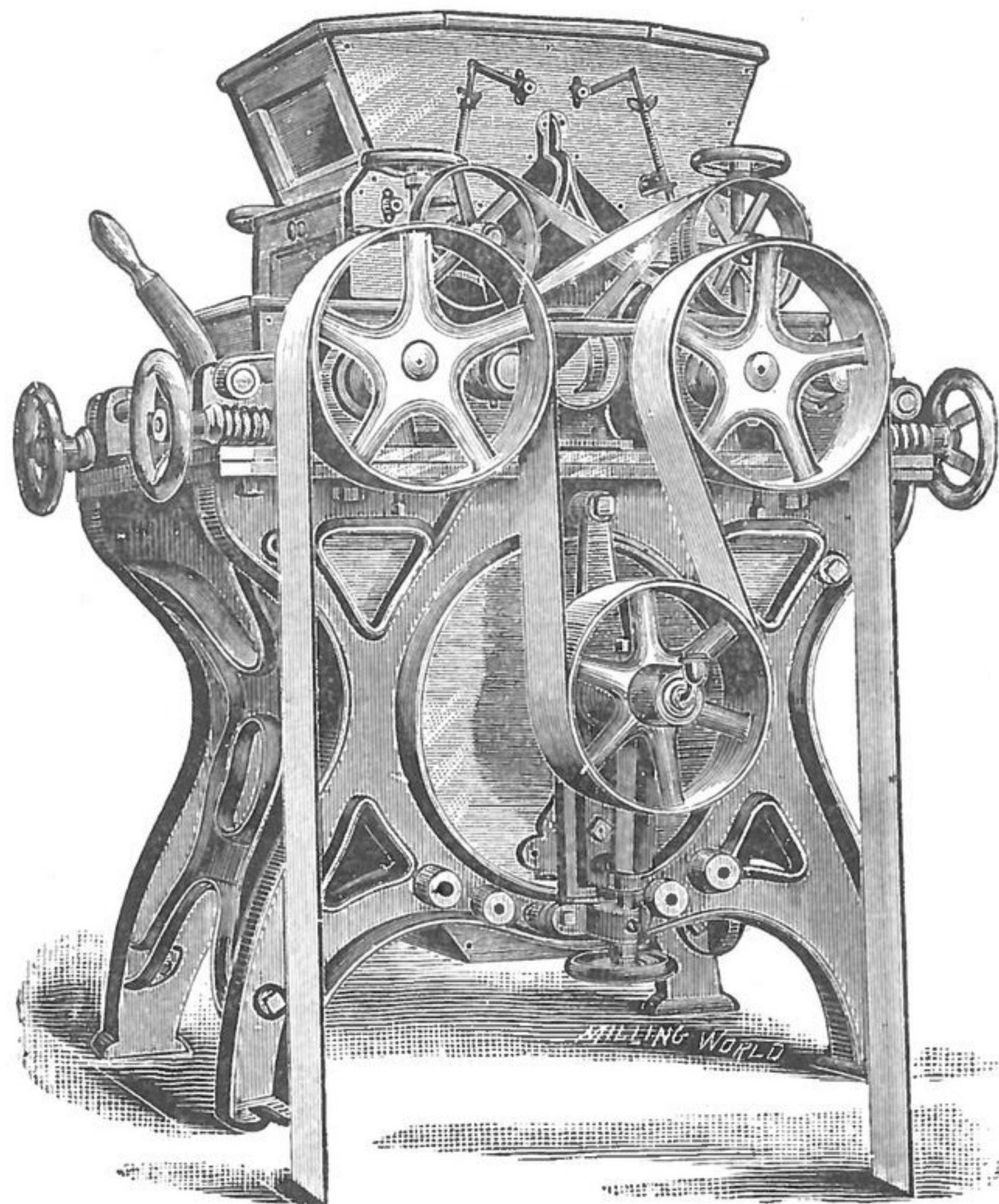
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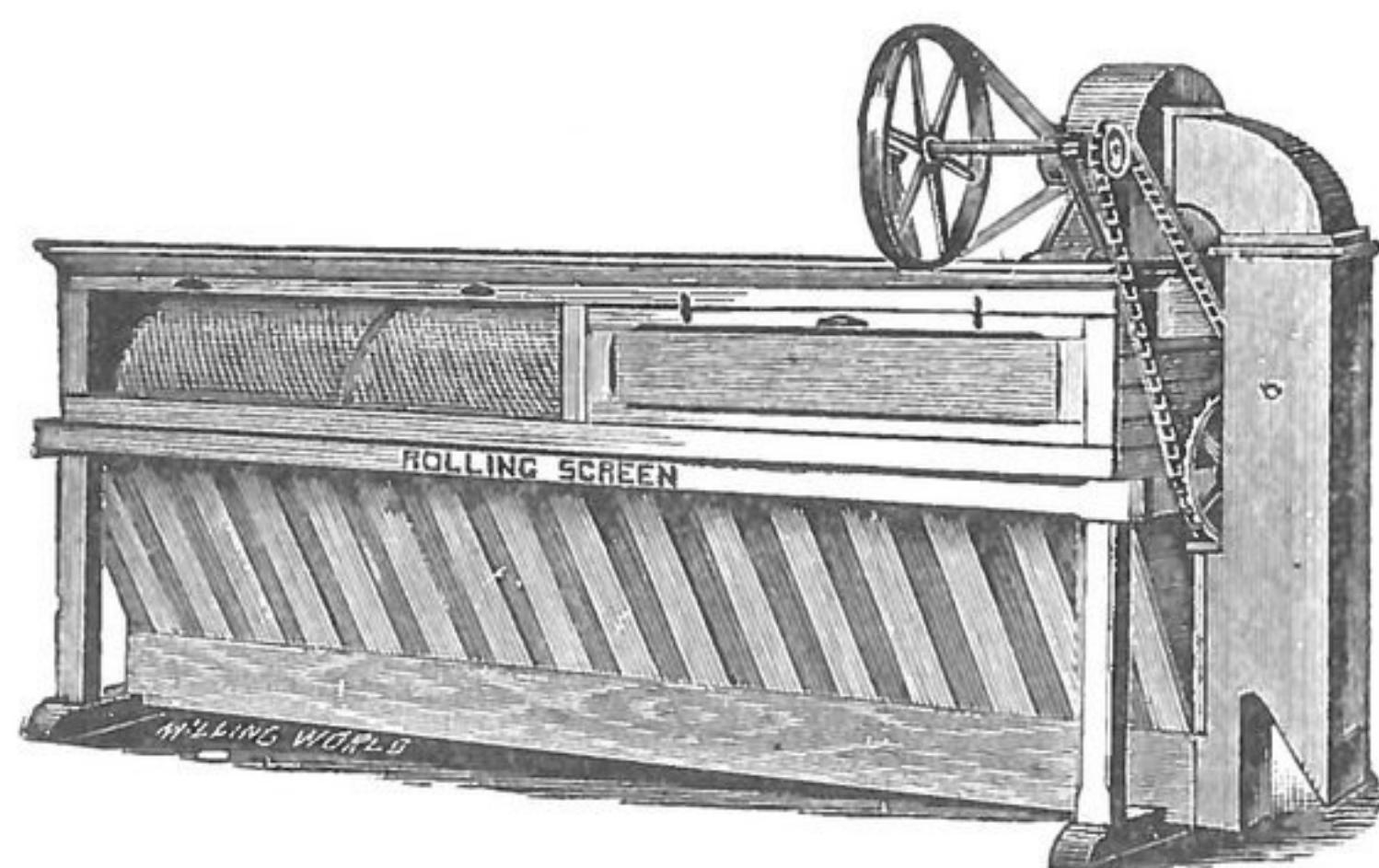
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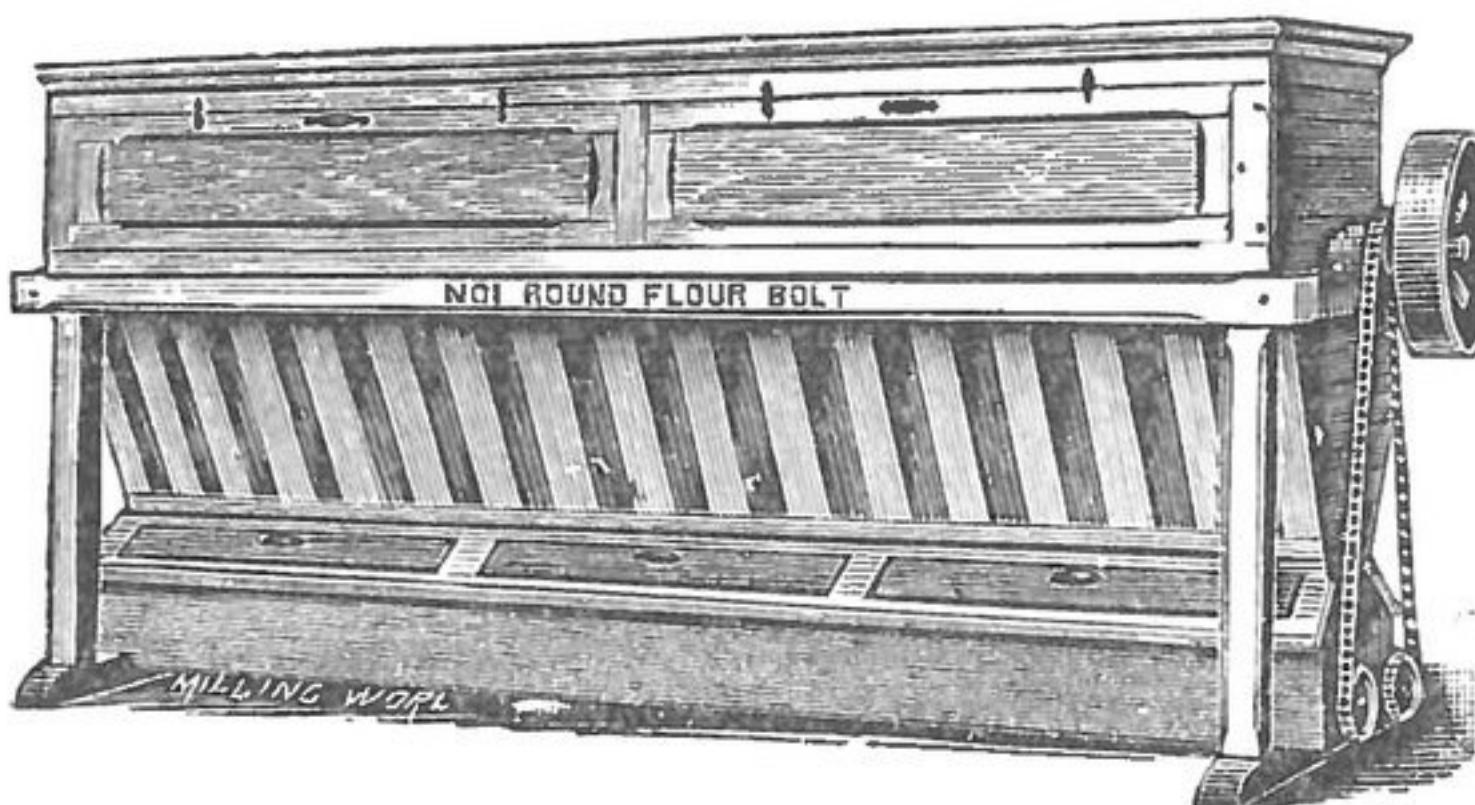
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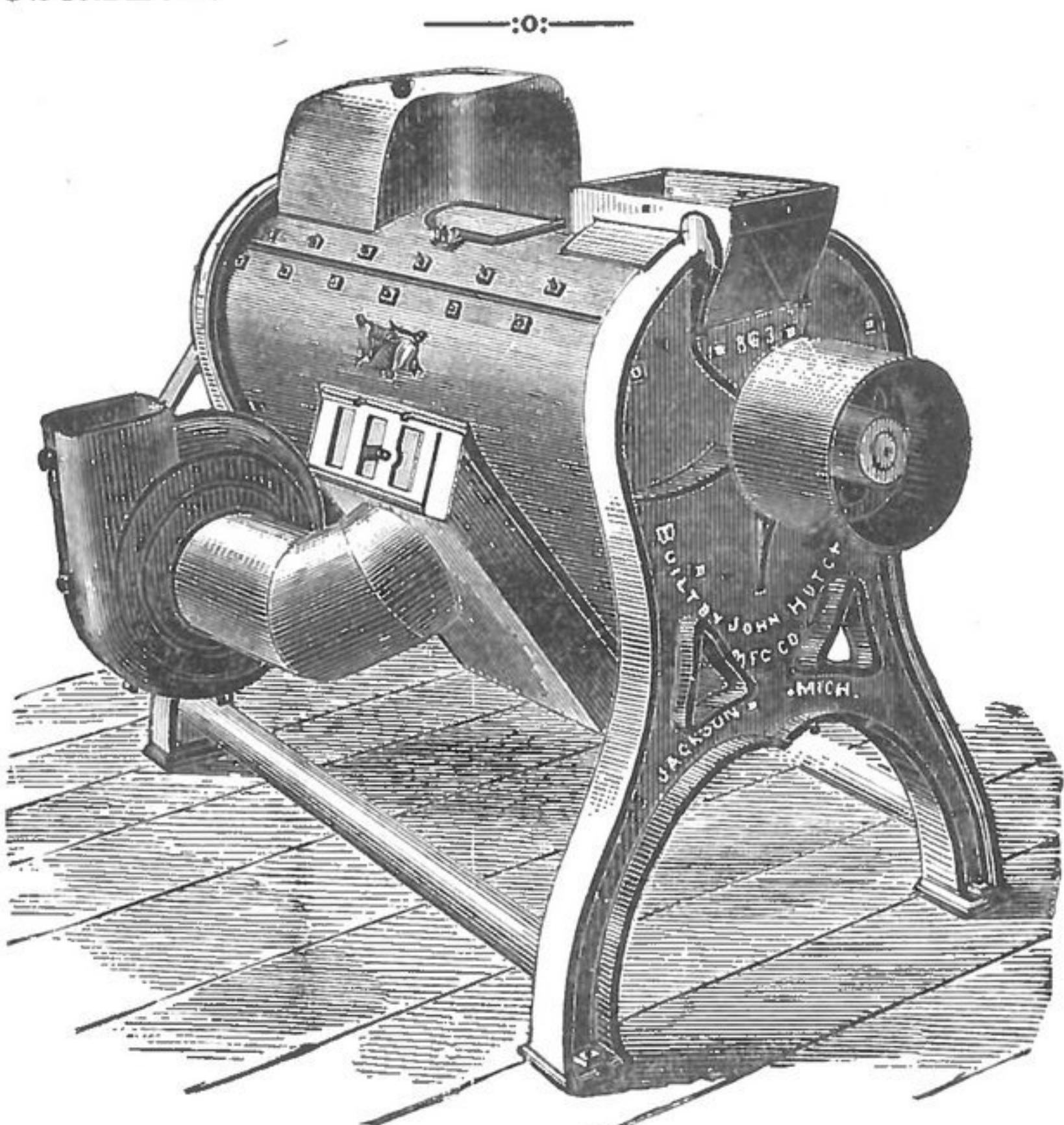


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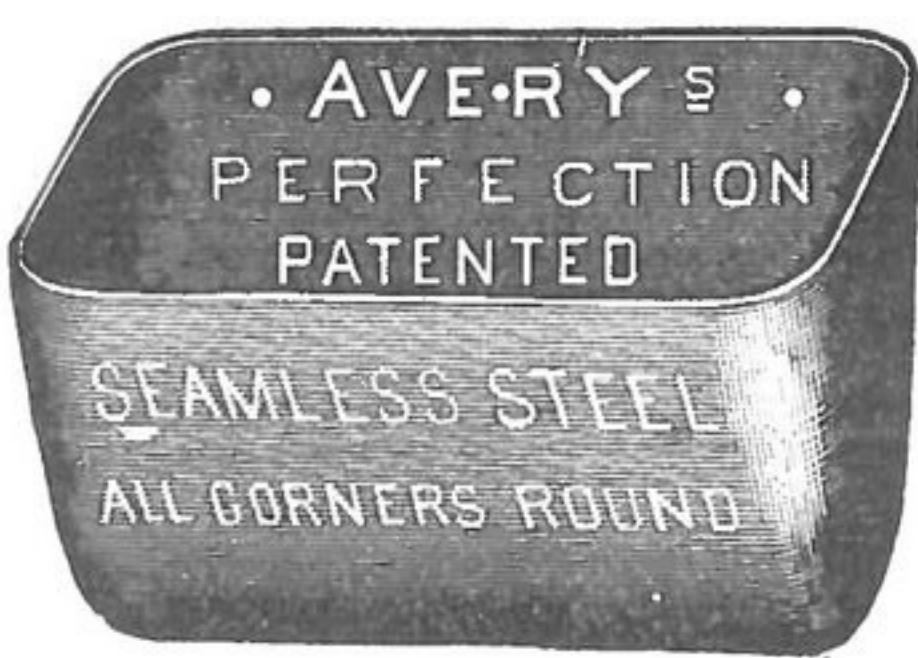
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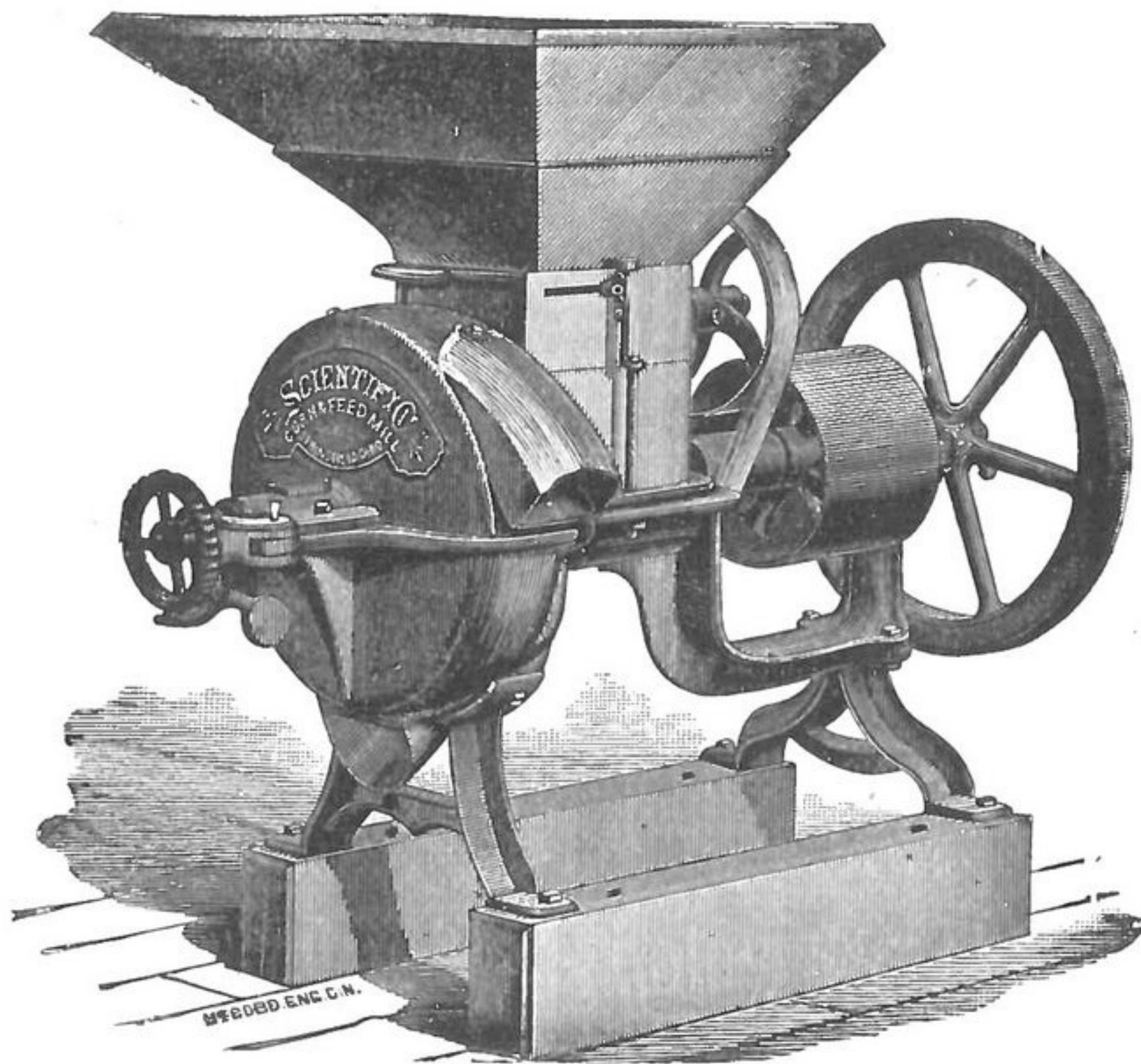
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